



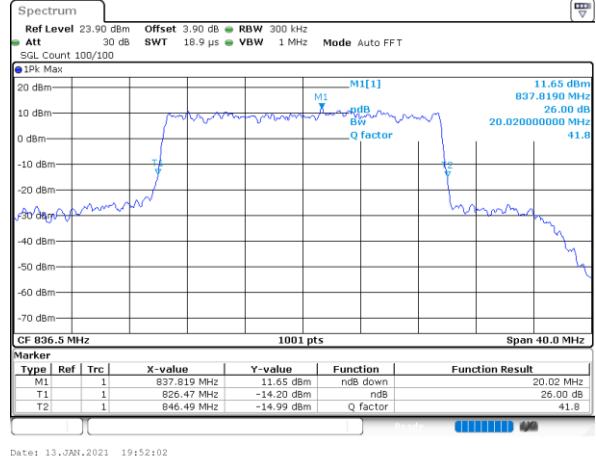
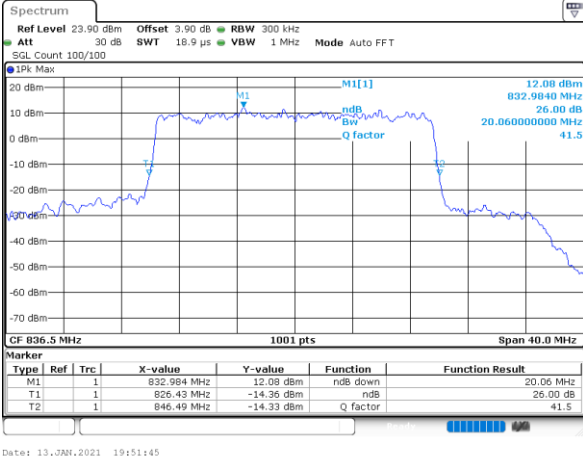
FR1 n5 / 20MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel

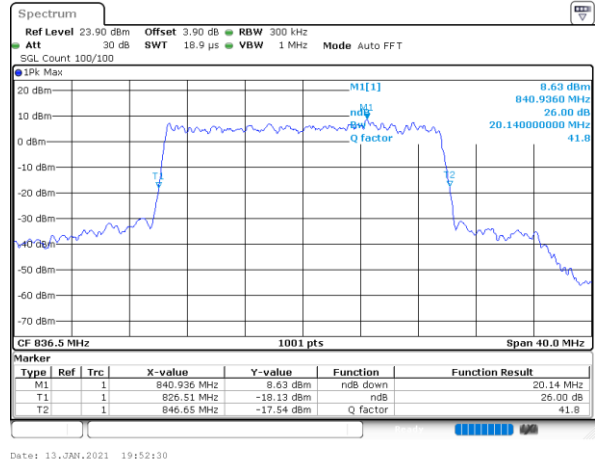
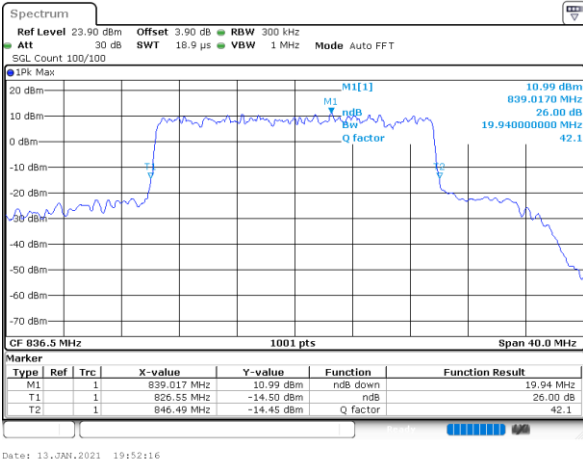


64QAM

256QAM

Middle Channel

Middle Channel





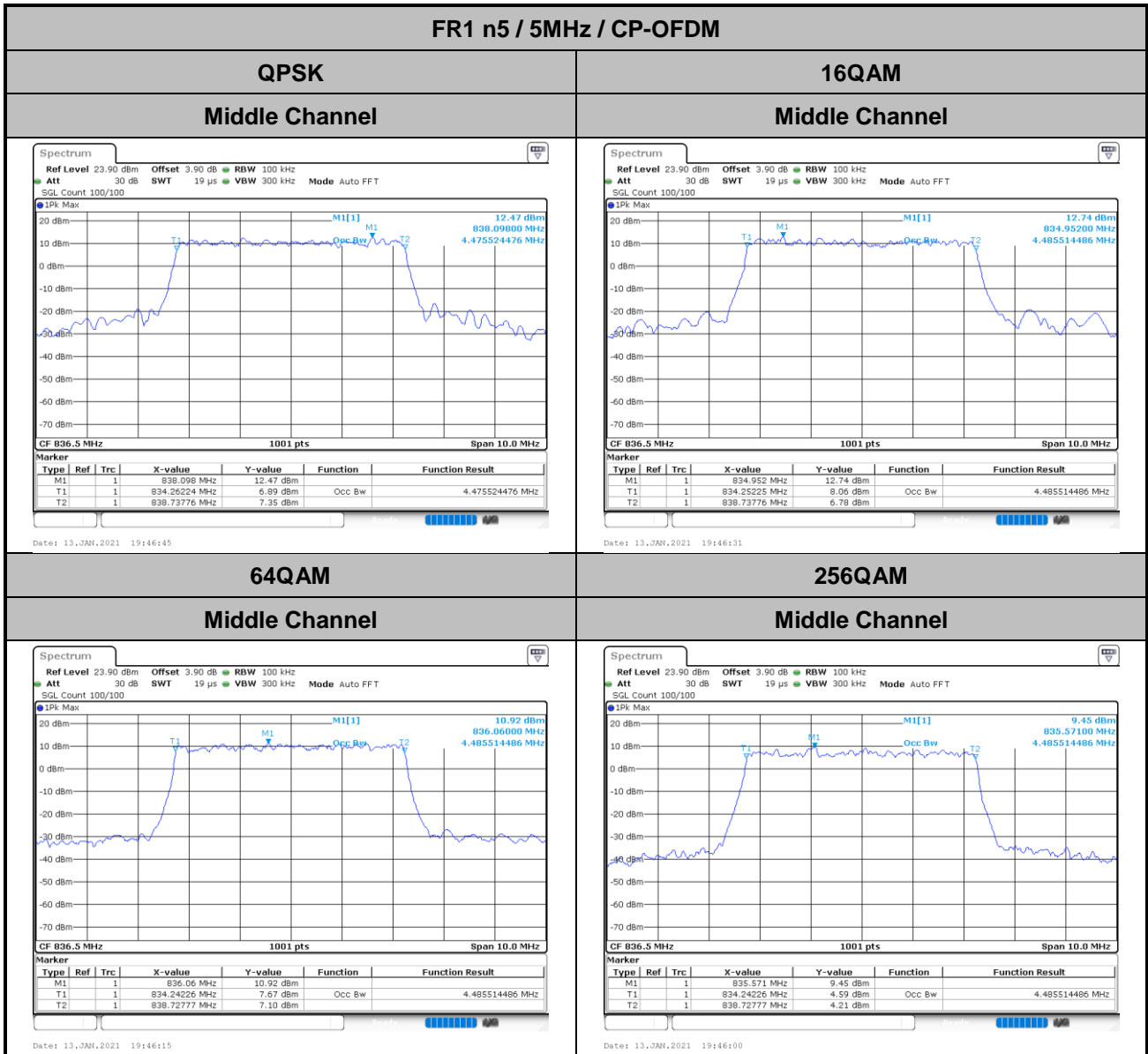
### Occupied Bandwidth

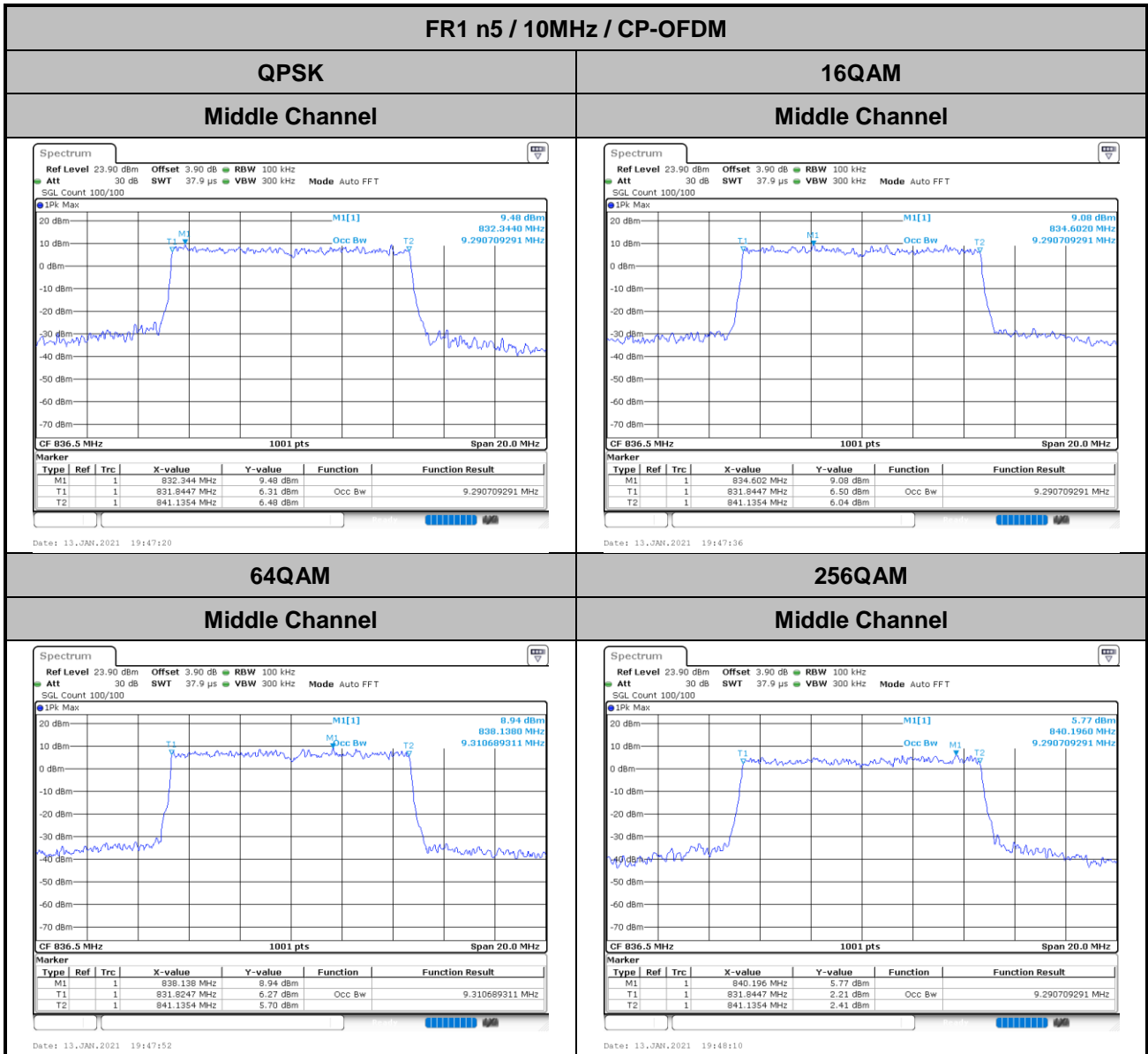
Mode	FR1 n5 : OBW(MHz) / CP-OFDM							
BW	5MHz	5MHz	5MHz	5MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	4.48	4.49	4.49	4.49				

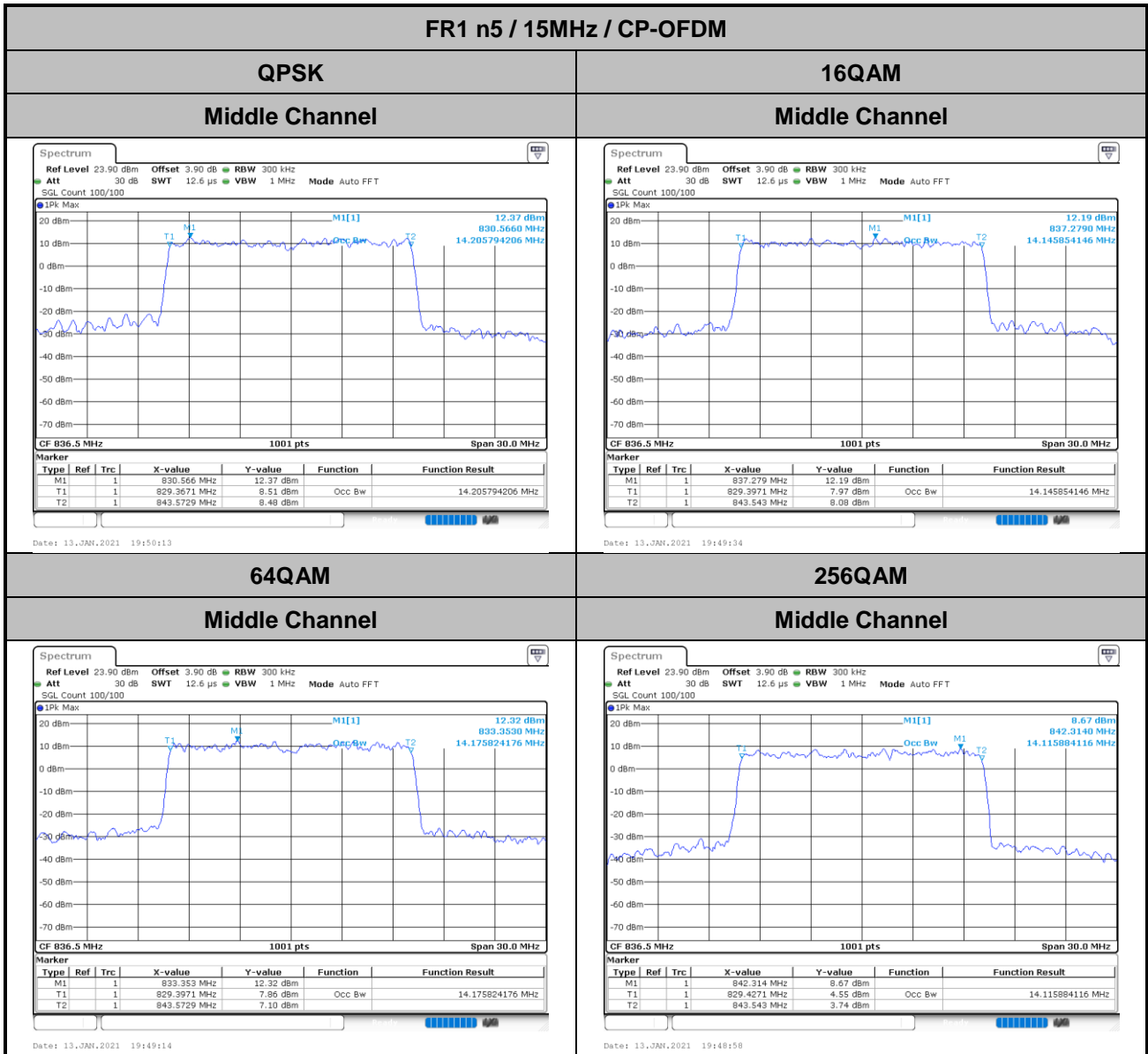
Mode	FR1 n5 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.29	9.29	9.31	9.29				

Mode	FR1 n5 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.21	14.15	14.18	14.12				

Mode	FR1 n5 : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.90	19.02	18.98	19.02				









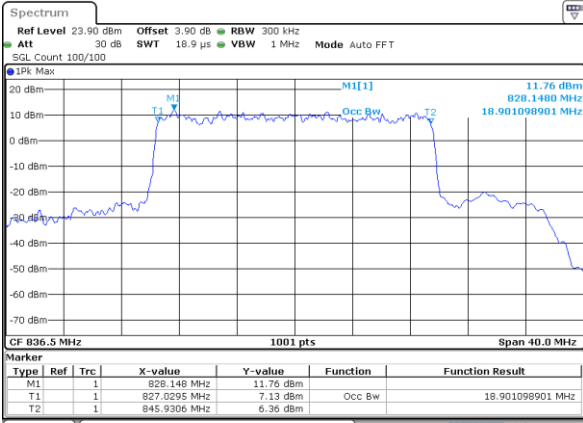
FR1 n5 / 20MHz / CP-OFDM

QPSK

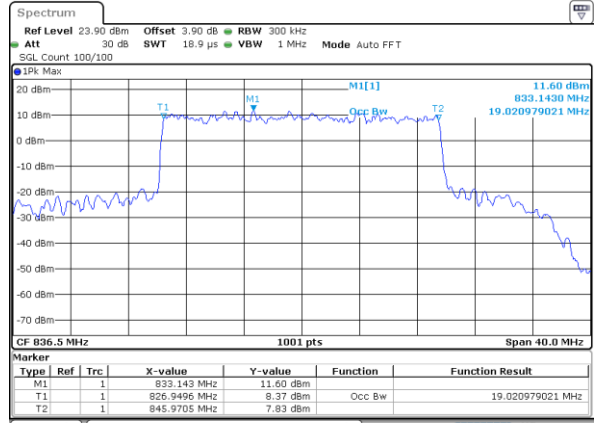
16QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 19:51:40



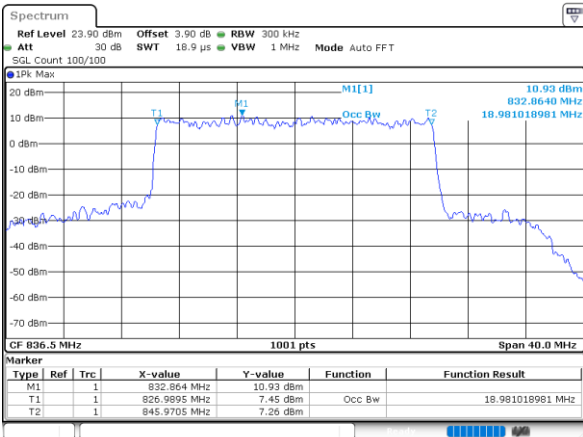
Date: 13, JAN, 2021 19:51:57

64QAM

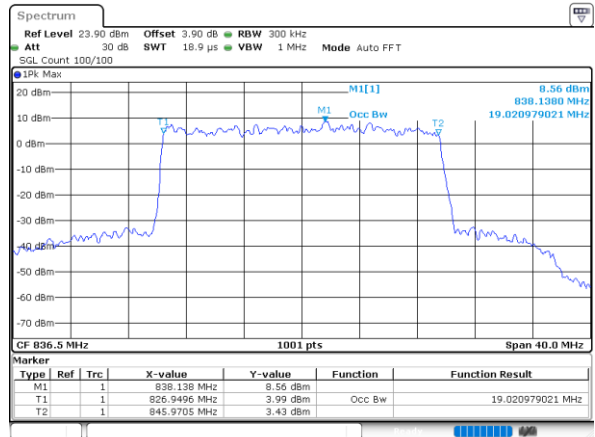
256QAM

Middle Channel

Middle Channel



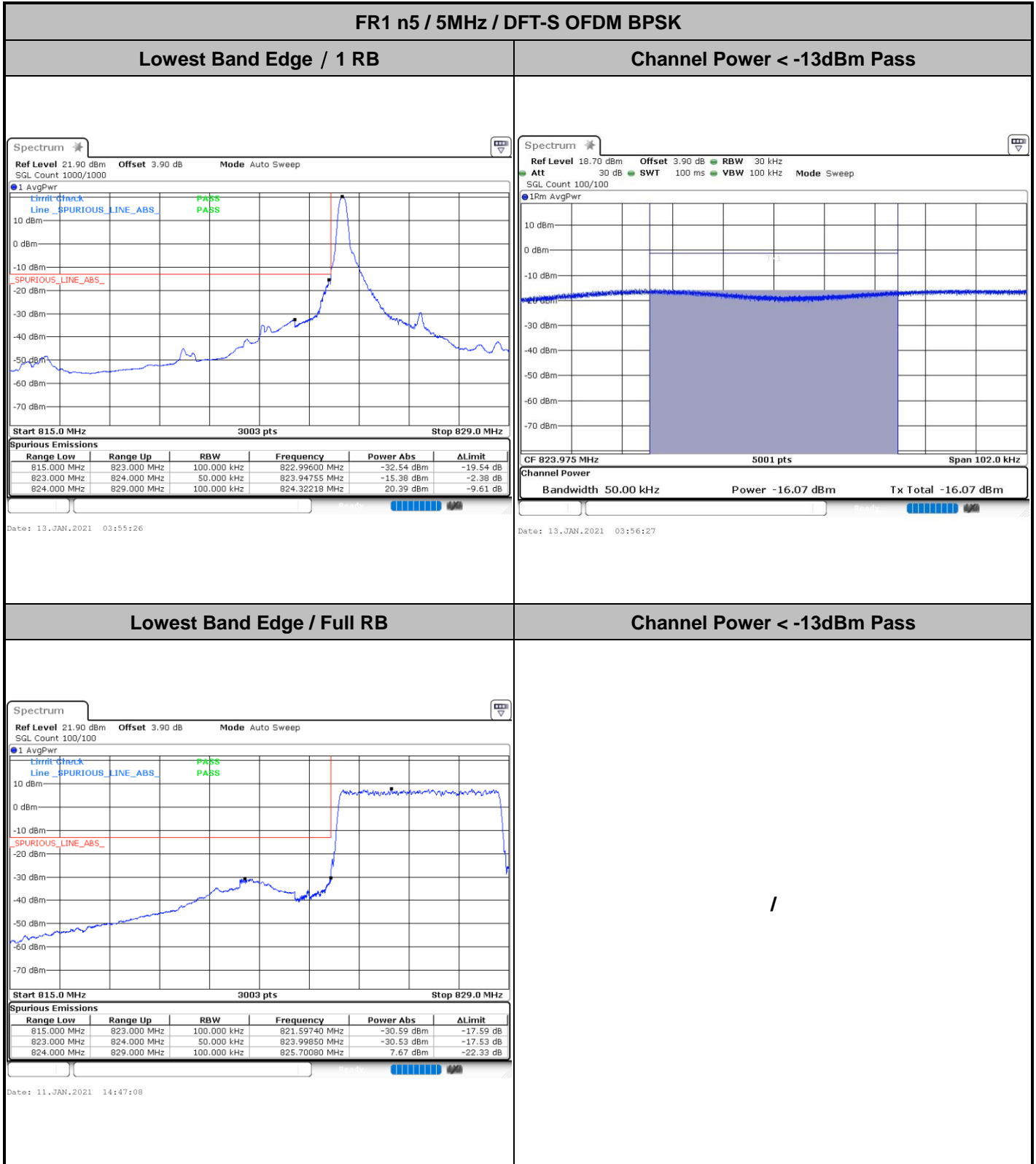
Date: 13, JAN, 2021 19:52:12



Date: 13, JAN, 2021 19:52:26

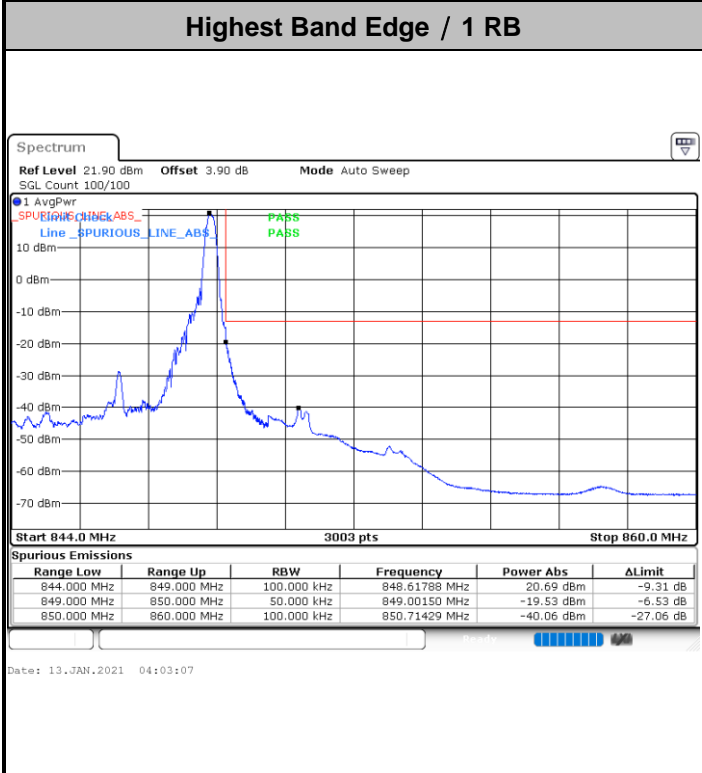


# Conducted Band Edge



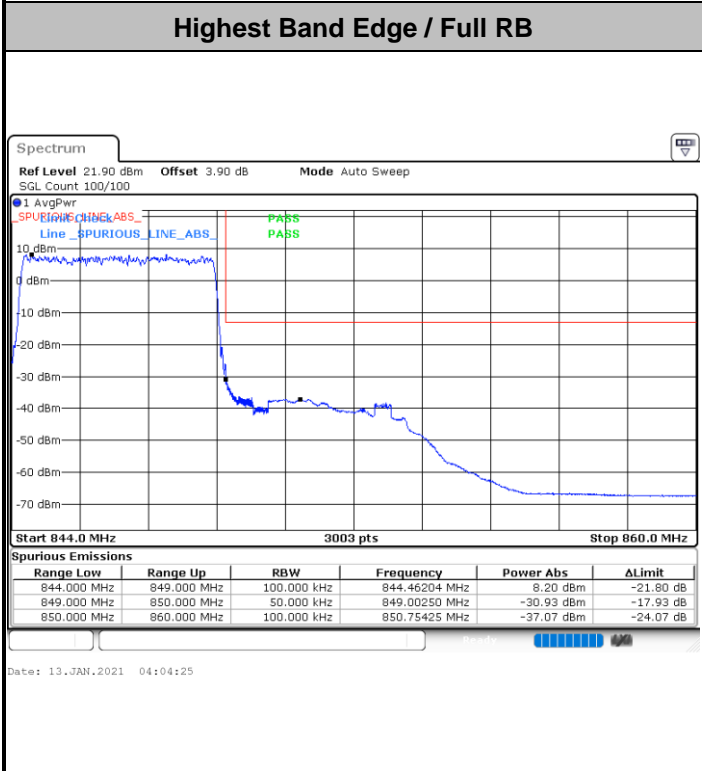


**FR1 n5 / 5MHz / DFT-S OFDM BPSK**



**Channel Power < -13dBm Pass**

/



**Channel Power < -13dBm Pass**

/

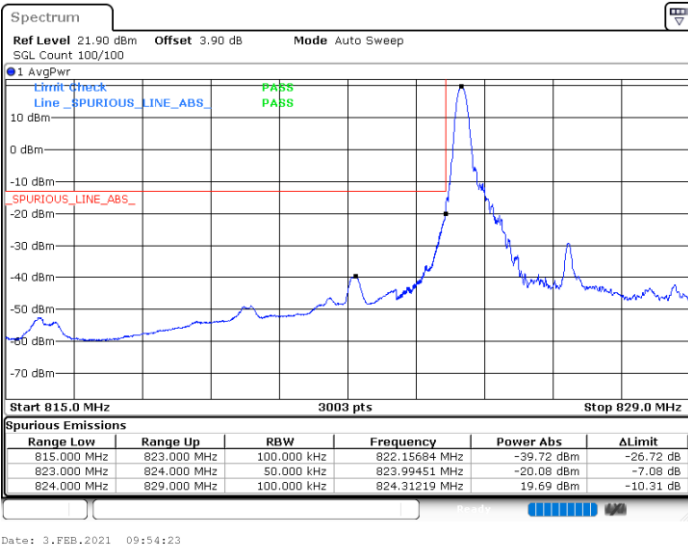




FR1 n5 / 5MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

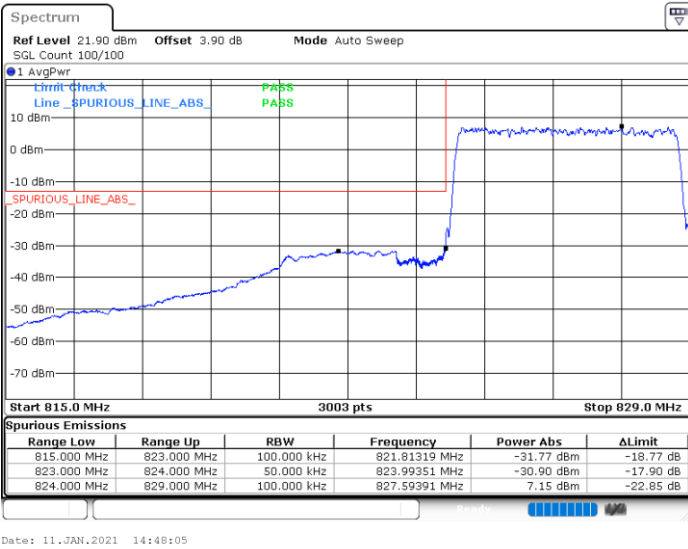
Channel Power < -13dBm Pass



/

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



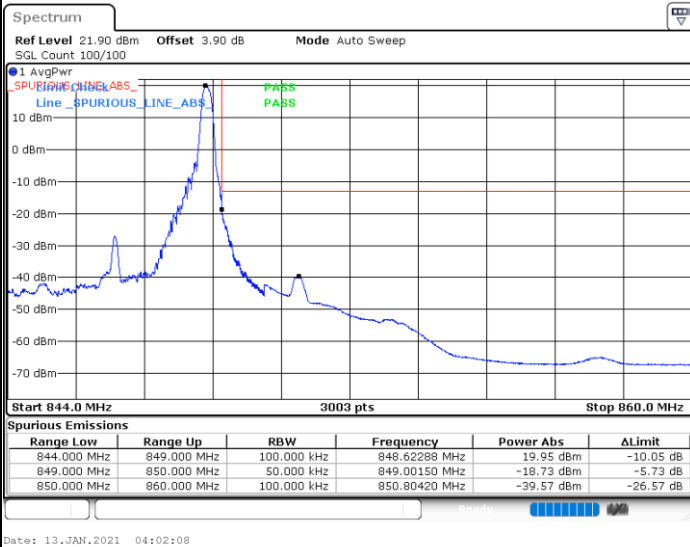
/



FR1 n5 / 5MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

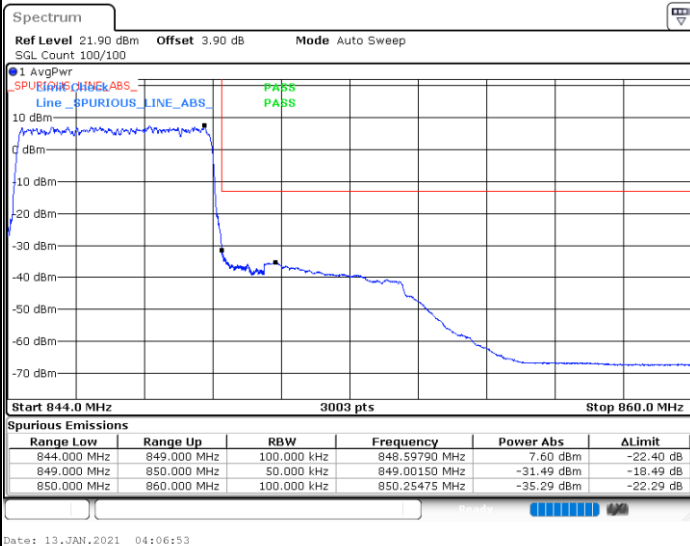
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



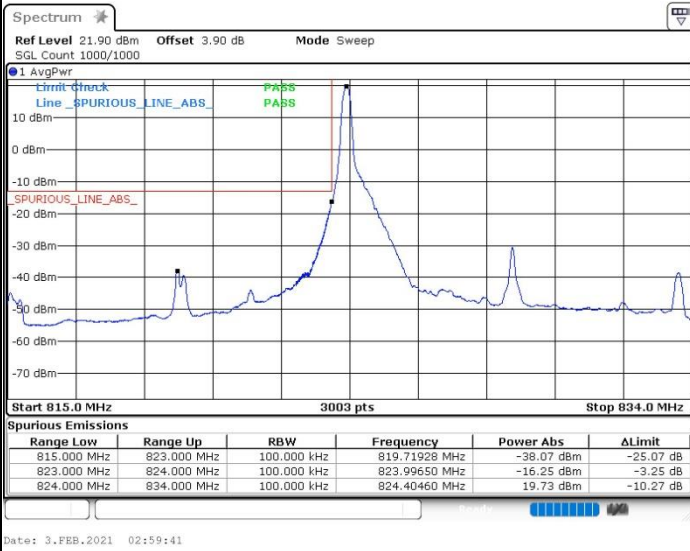
/



FR1 n5 / 10MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

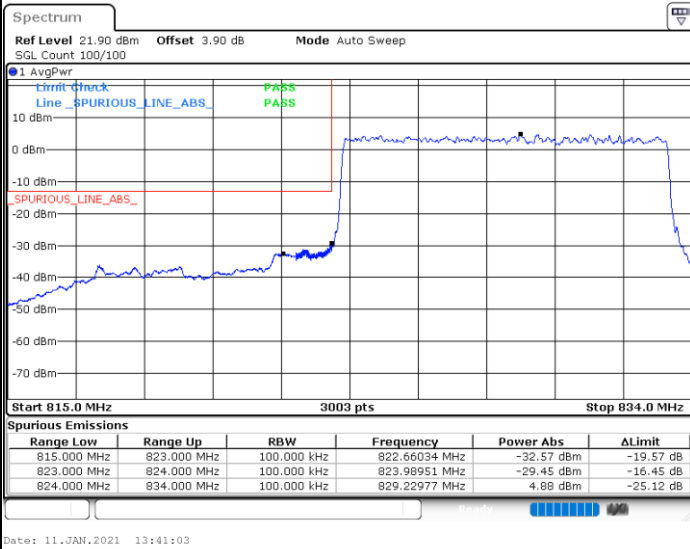
Channel Power < -13dBm Pass



/

Lowest Band Edge / Full RB

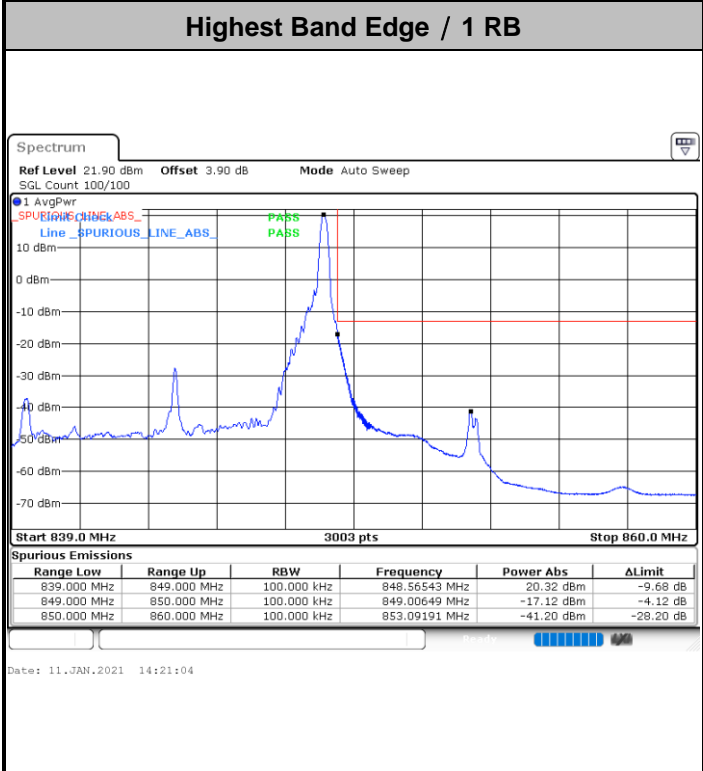
Channel Power < -13dBm Pass



/

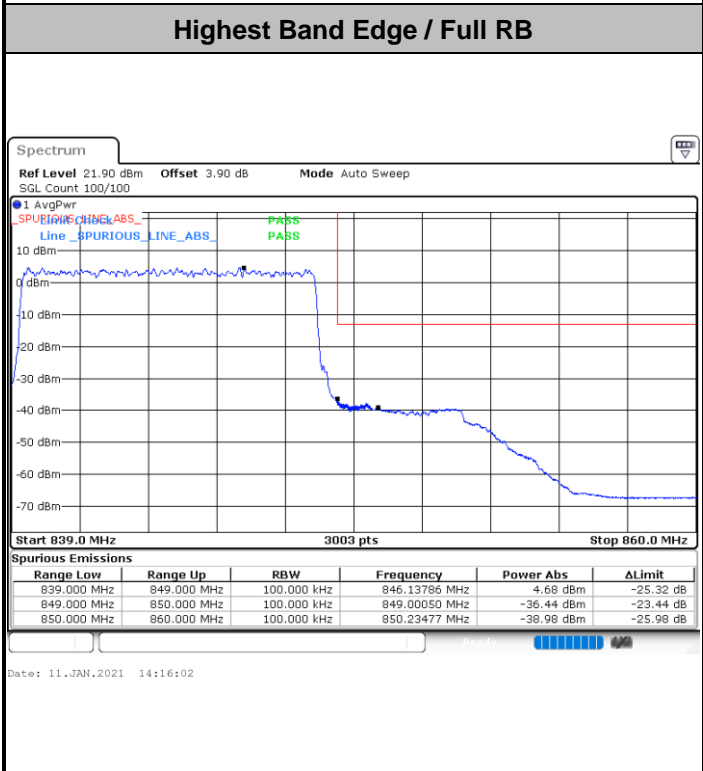


FR1 n5 / 10MHz / DFT-S OFDM BPSK



Channel Power < -13dBm Pass

/



Channel Power < -13dBm Pass

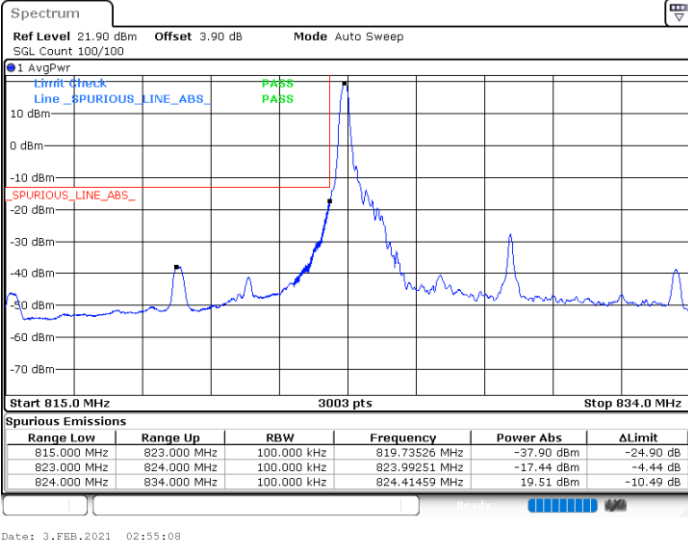
/



FR1 n5 / 10MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

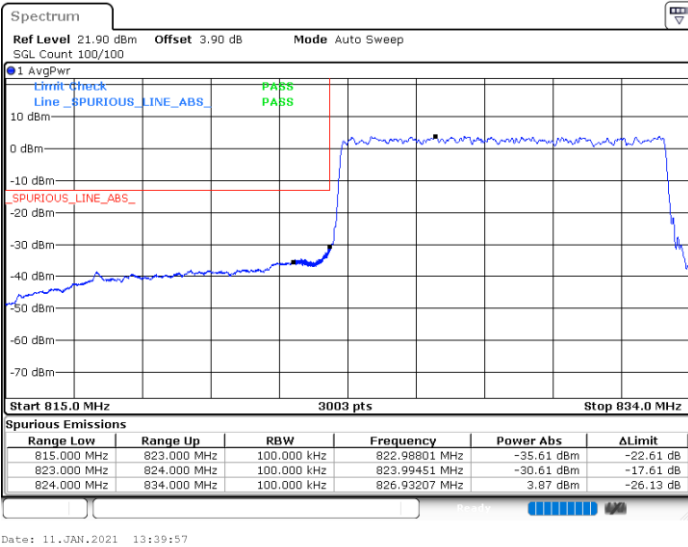
Channel Power < -13dBm Pass



/

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



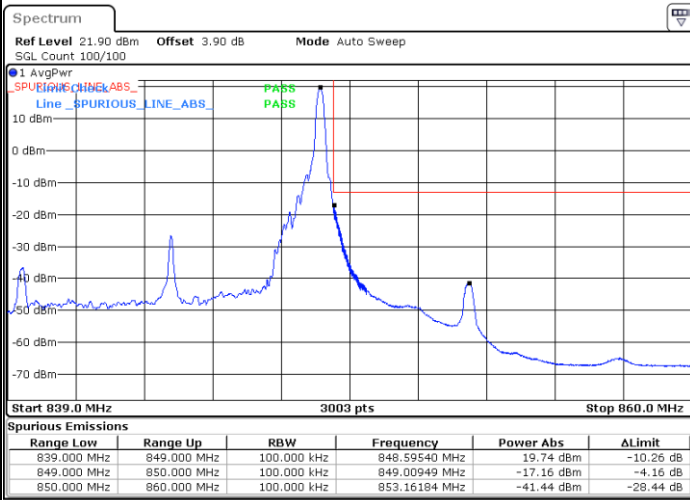
/



FR1 n5 / 10MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

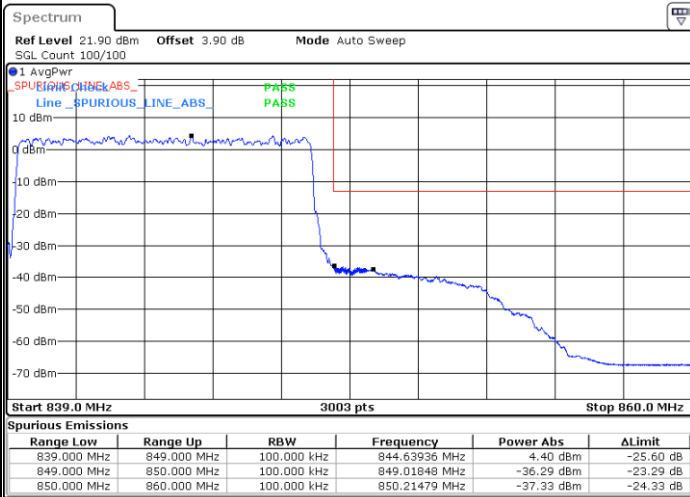
Channel Power < -13dBm Pass



Date: 11.JAN.2021 14:21:59

Highest Band Edge / Full RB

Channel Power < -13dBm Pass

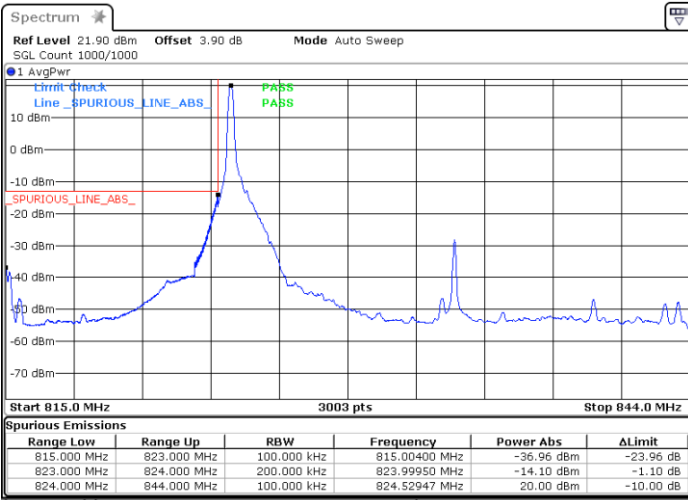


Date: 11.JAN.2021 14:16:56



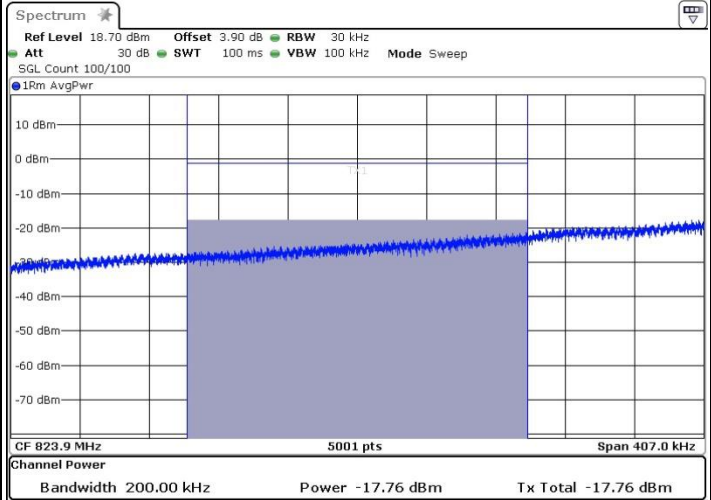
FR1 n5 / 20MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB



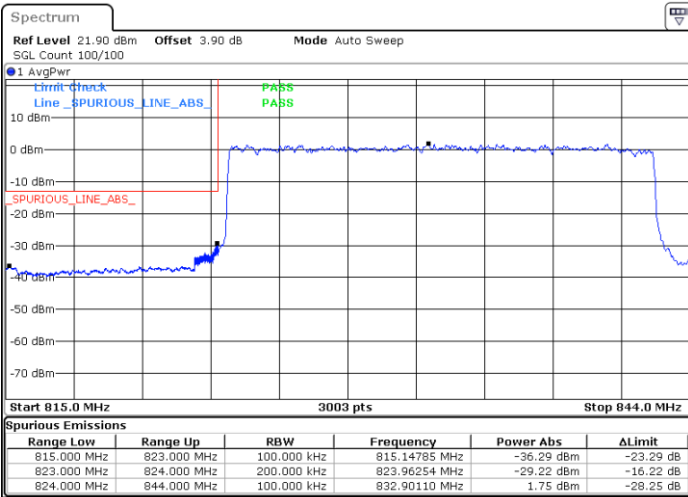
Date: 11.JAN.2021 11:17:45

Channel Power < -13dBm Pass



Date: 11.JAN.2021 11:18:27

Lowest Band Edge / Full RB



Date: 11.JAN.2021 11:20:22

Channel Power < -13dBm Pass

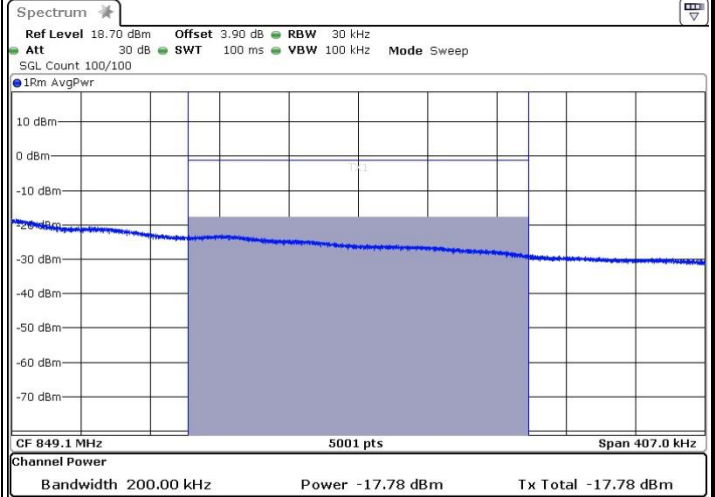
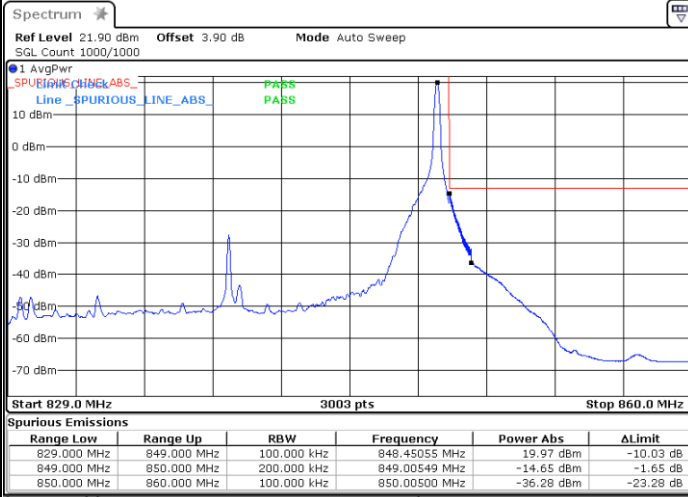
/



FR1 n5 / 20MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass

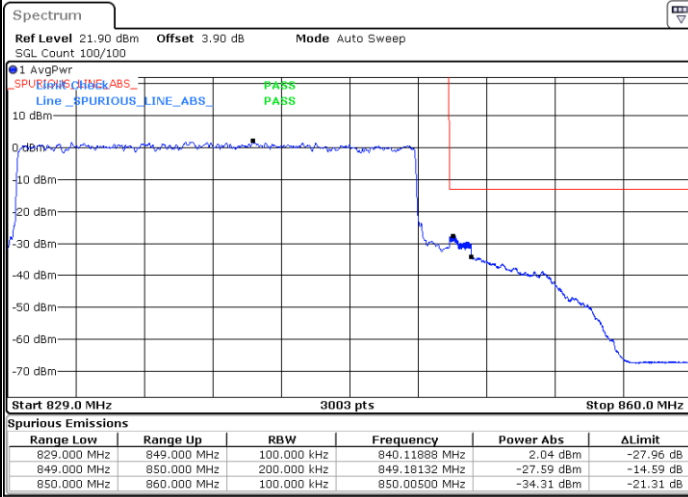


Date: 11.JAN.2021 08:37:00

Date: 11.JAN.2021 08:38:28

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



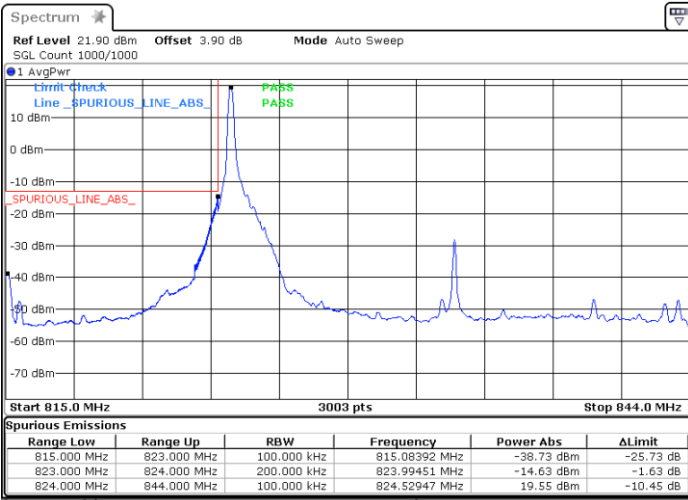
Date: 11.JAN.2021 11:25:07





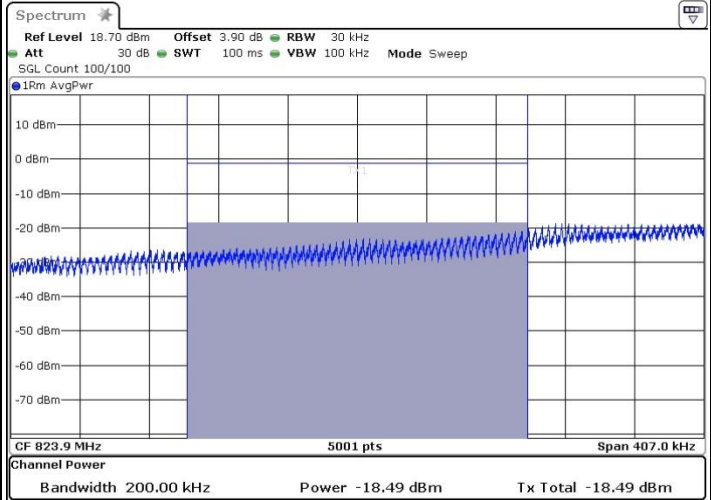
FR1 n5 / 20MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB



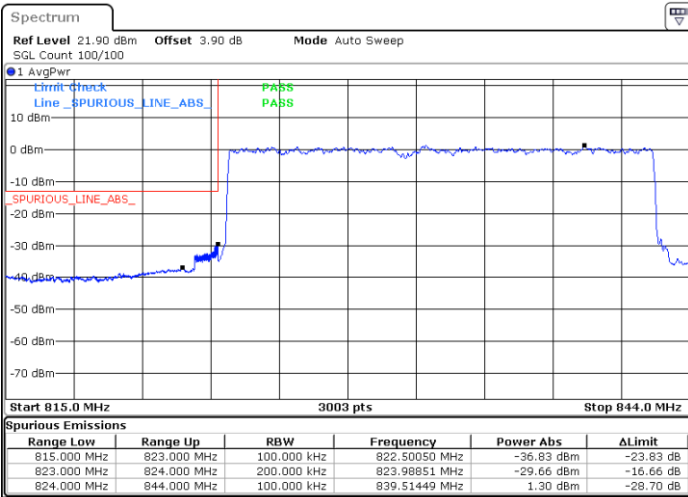
Date: 11.JAN.2021 11:10:41

Channel Power < -13dBm Pass



Date: 11.JAN.2021 11:11:49

Lowest Band Edge / Full RB



Date: 11.JAN.2021 11:21:13

Channel Power < -13dBm Pass

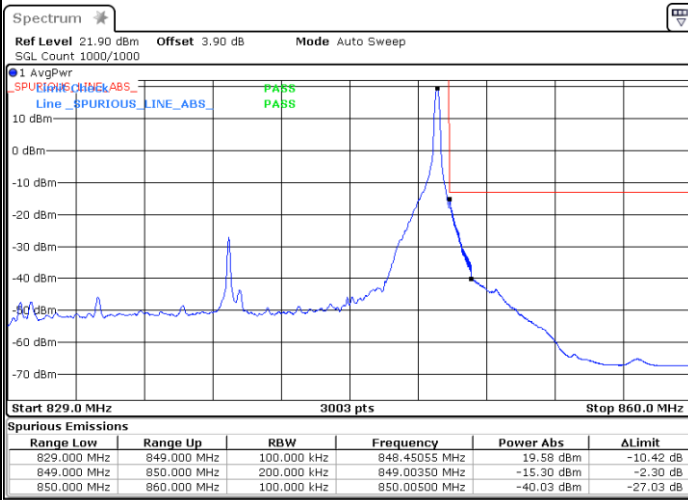
/



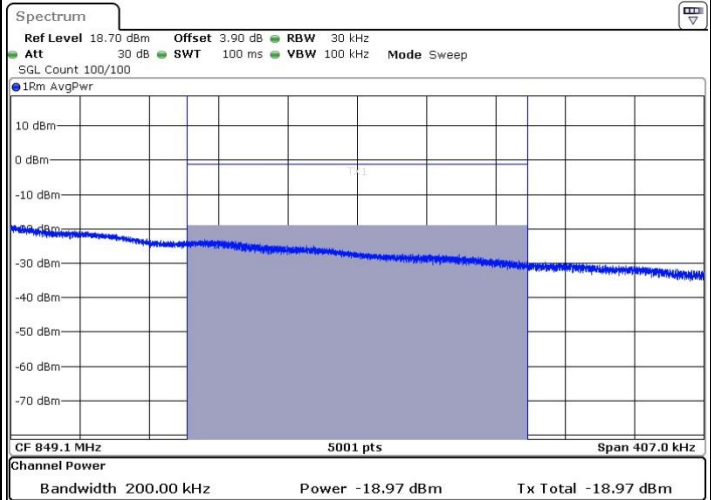
FR1 n5 / 20MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



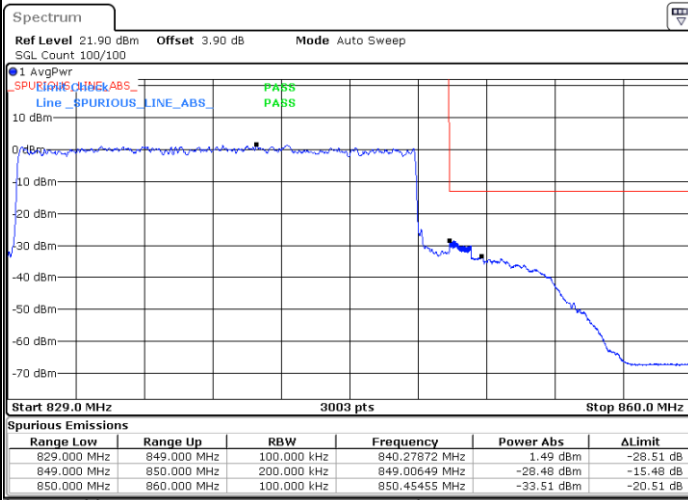
Date: 11.JAN.2021 08:44:17



Date: 11.JAN.2021 08:38:53

Highest Band Edge / Full RB

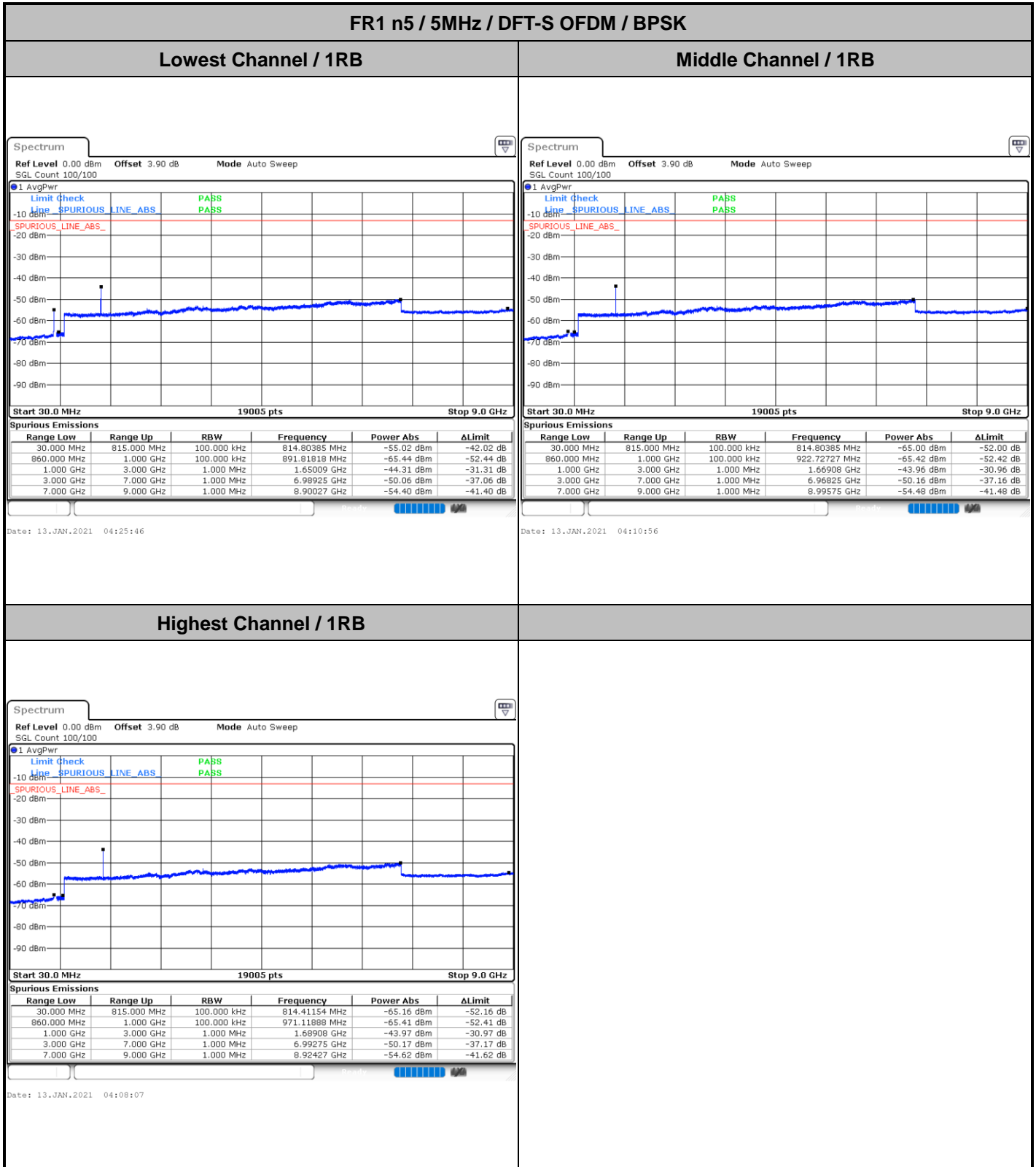
Channel Power < -13dBm Pass



Date: 11.JAN.2021 11:26:11



# Conducted Spurious Emission

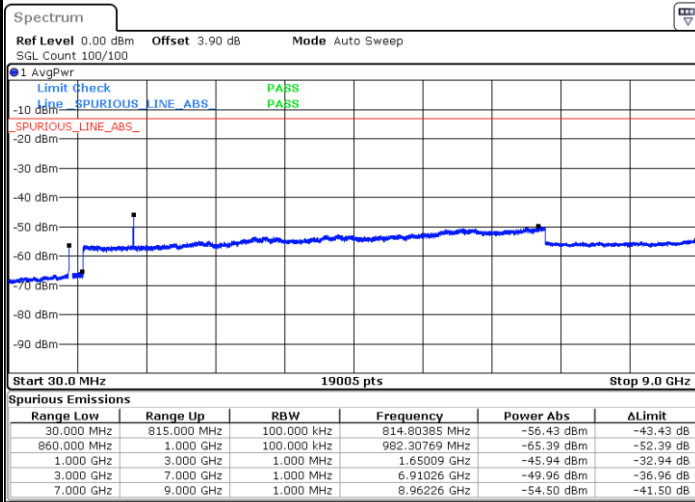




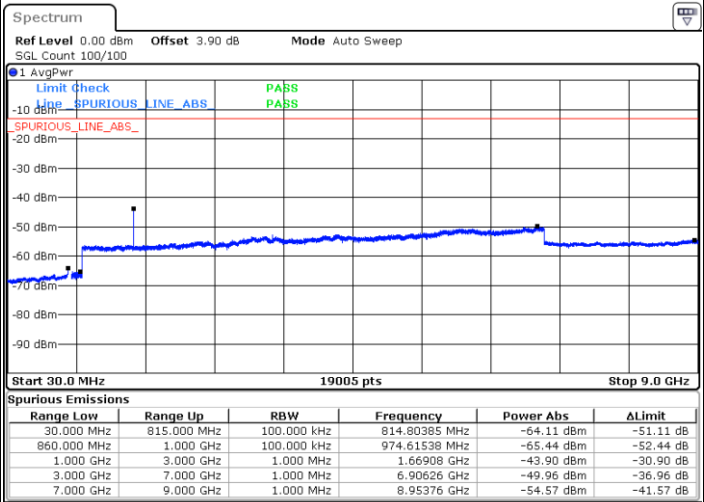
FR1 n5 / 5MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

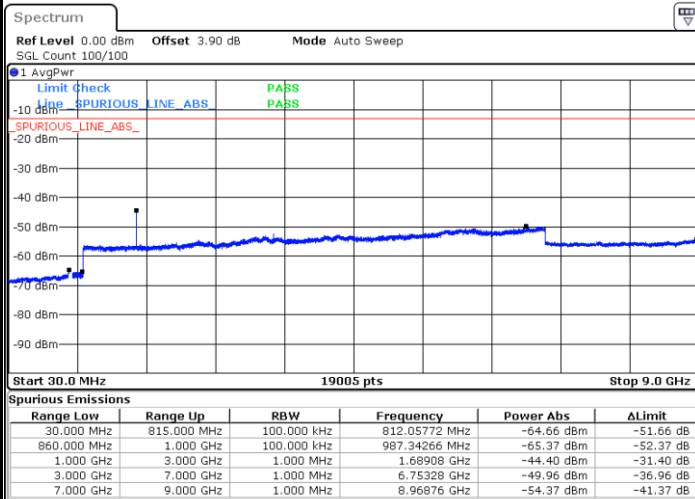


Date: 13.JAN.2021 04:22:52



Date: 13.JAN.2021 04:14:35

Highest Channel / 1RB



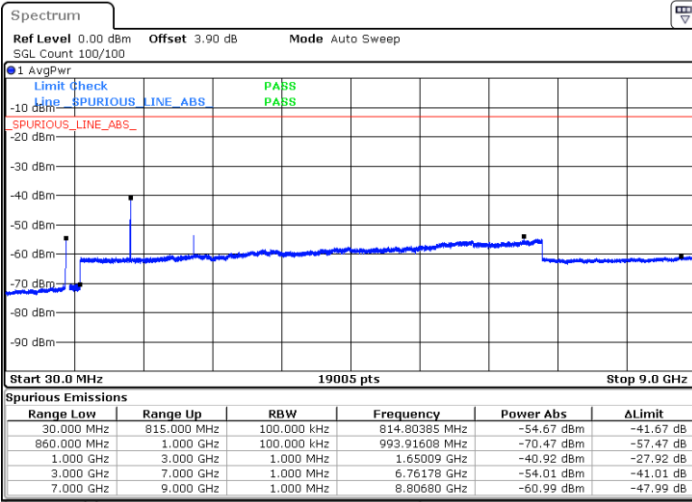
Date: 13.JAN.2021 04:07:34



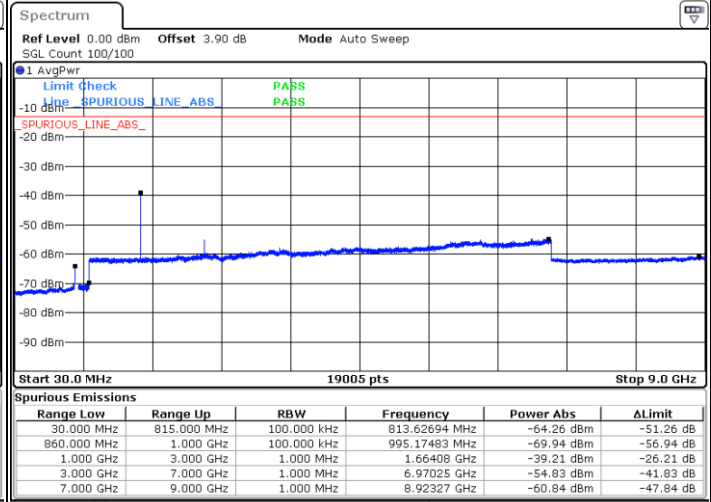
FR1 n5 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

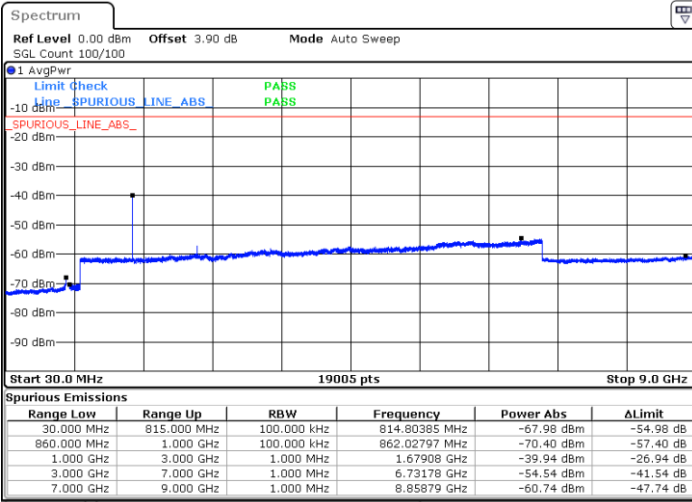


Date: 11.JAN.2021 14:00:03



Date: 11.JAN.2021 14:12:54

Highest Channel / 1RB



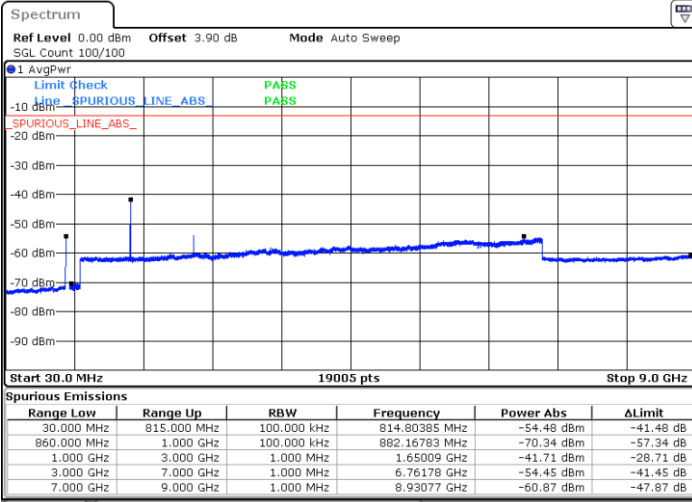
Date: 11.JAN.2021 14:19:20



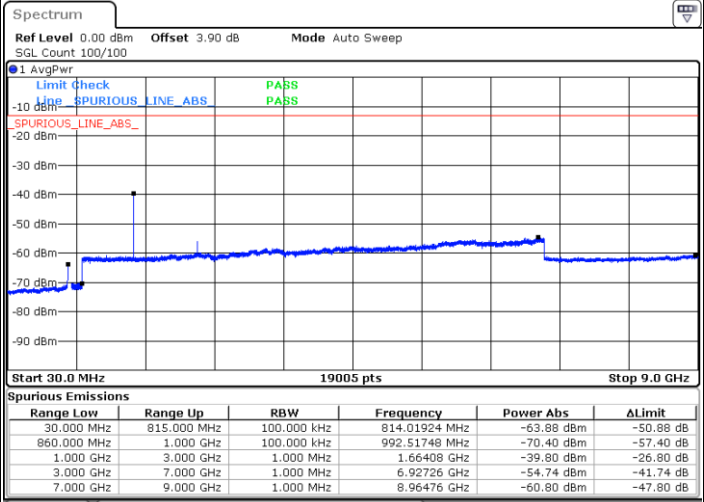
FR1 n5 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

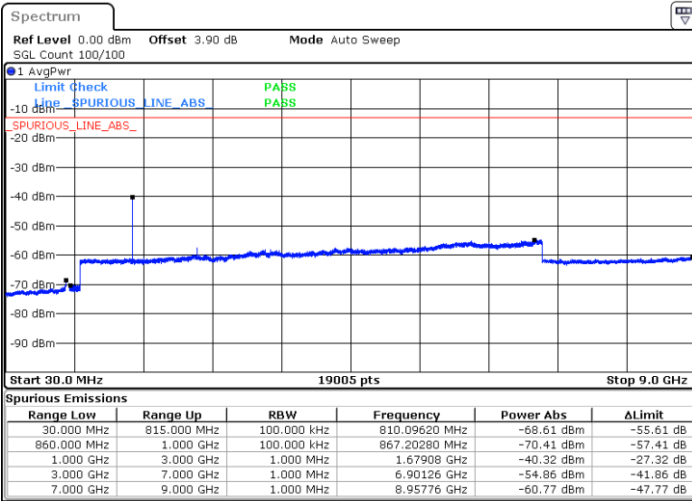


Date: 11.JAN.2021 14:02:03



Date: 11.JAN.2021 14:13:25

Highest Channel / 1RB



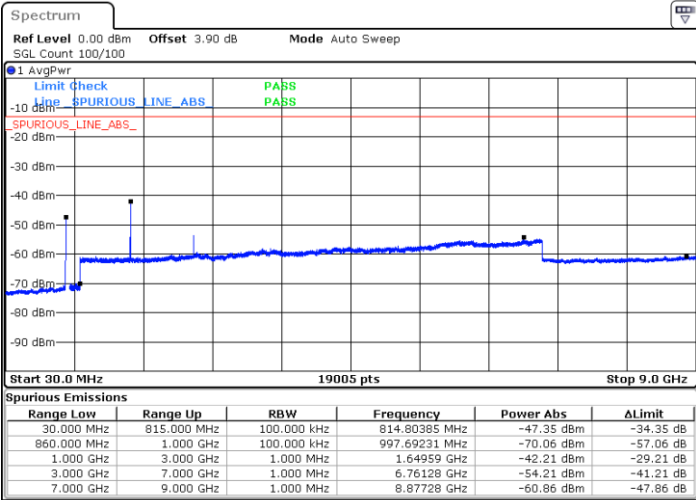
Date: 11.JAN.2021 14:17:28



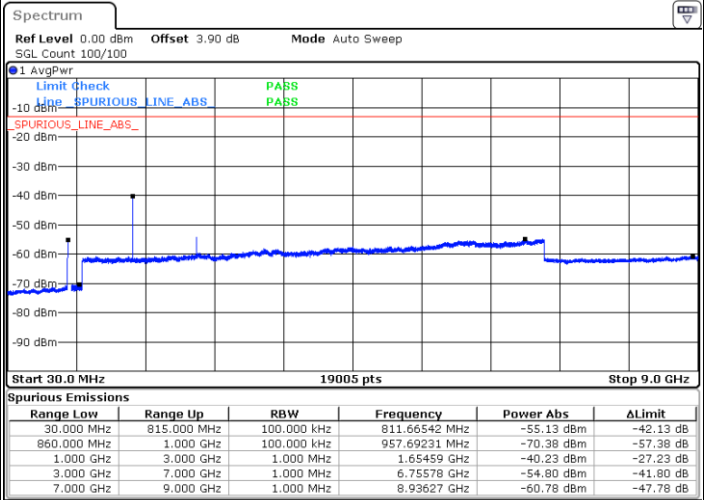
FR1 n5 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

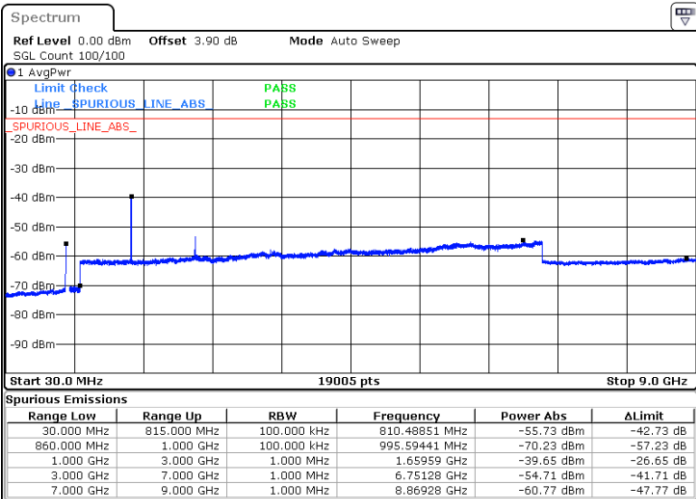


Date: 11.JAN.2021 08:29:31



Date: 11.JAN.2021 08:28:01

Highest Channel / 1RB



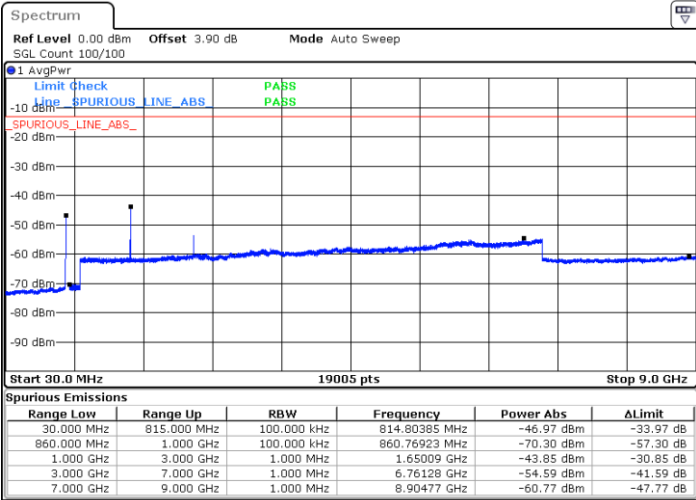
Date: 11.JAN.2021 08:32:06



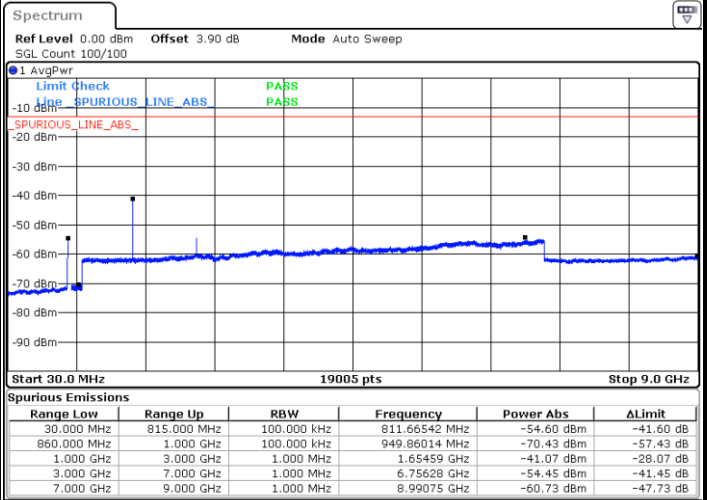
FR1 n5 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

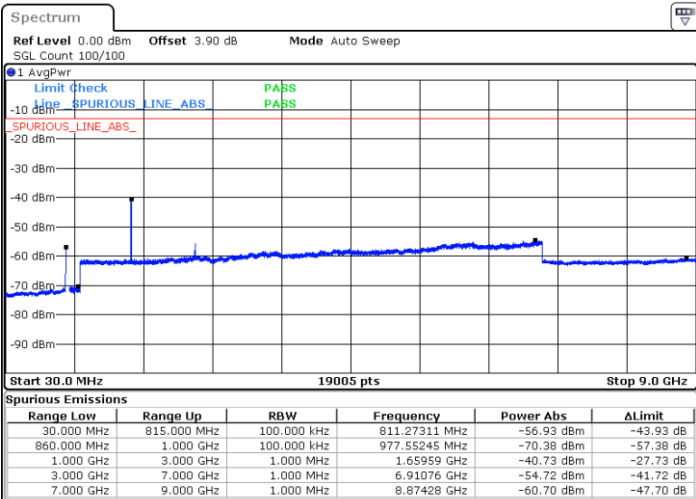


Date: 11.JAN.2021 08:29:58



Date: 11.JAN.2021 08:26:56

Highest Channel / 1RB



Date: 11.JAN.2021 08:31:16





Frequency Stability

Test Conditions		NR n5 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0005	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0018	
20(Ref.)	Normal Voltage	0.0013	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0016	
-10	Normal Voltage	0.0022	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0017	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0013	
20	Battery End Point	0.0029	

Note:

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# FR1 n5 NSA

## Peak-to-Average Ratio

Mode	FR1 n5+2A / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	PI/2 BPSK	QPSK	QPSK	Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.48	3.77	5.33	5.16	<b>PASS</b>
Middle CH	3.48	3.83	5.19	5.39	
Highest CH	3.65	3.88	5.45	5.36	



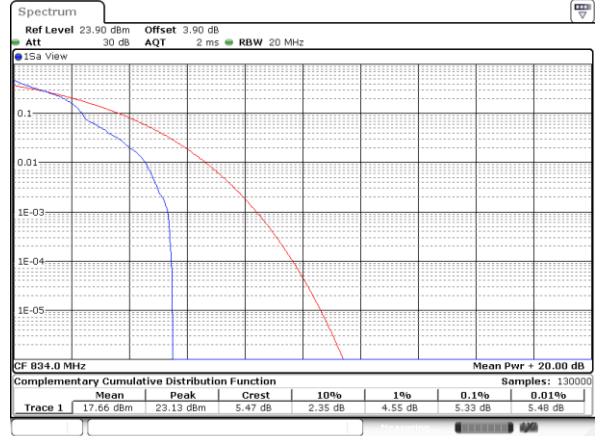
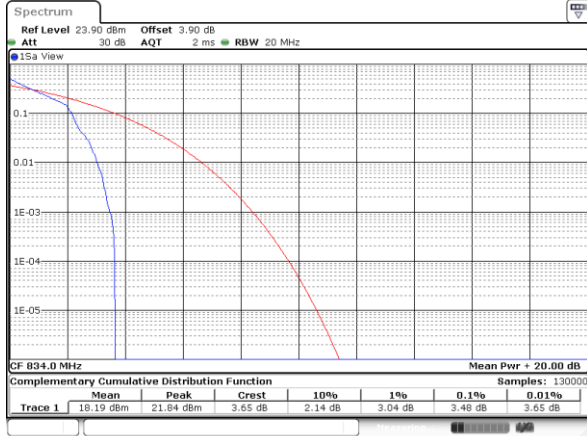
FR1 n5+2A / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB

Lowest Channel / 1RB

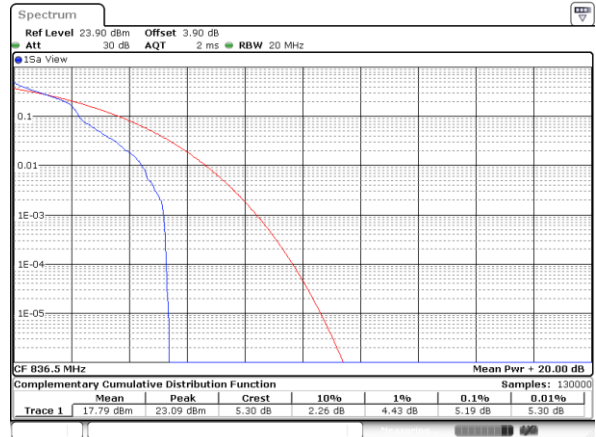
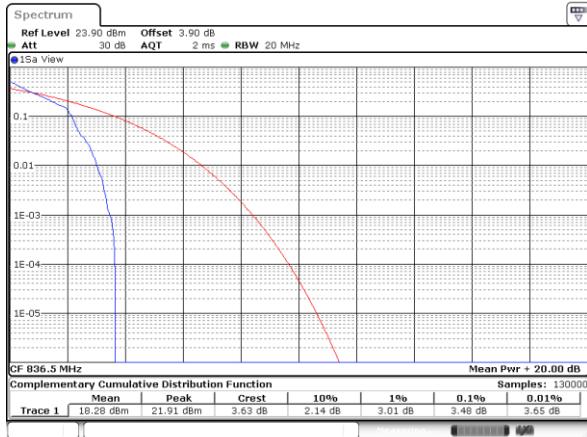


Date: 14\_JAN.2021 02:41:19

Date: 14\_JAN.2021 02:40:36

Middle Channel / 1 RB

Middle Channel / 1 RB

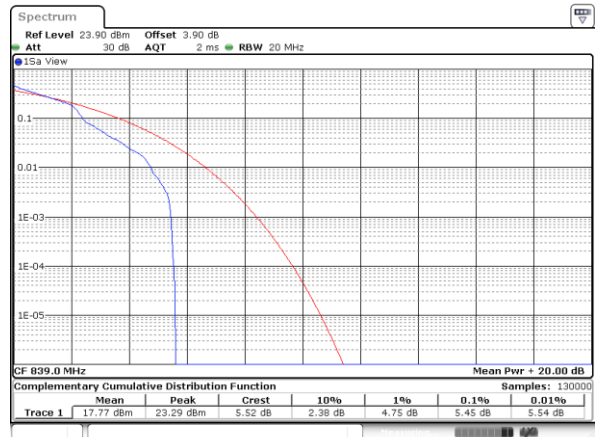
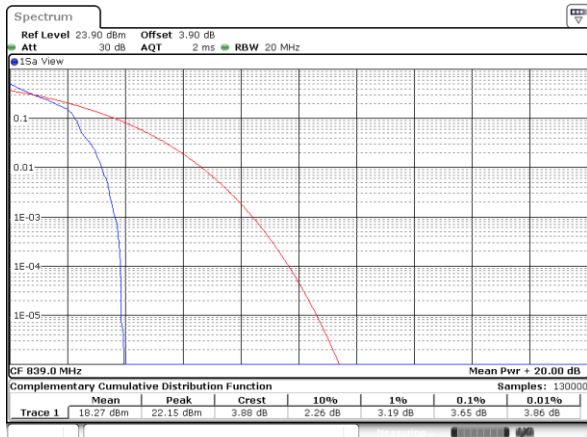


Date: 14\_JAN.2021 02:43:33

Date: 14\_JAN.2021 02:43:45

Highest Channel / 1 RB

Highest Channel / 1 RB



Date: 14\_JAN.2021 02:57:56

Date: 14\_JAN.2021 02:58:10



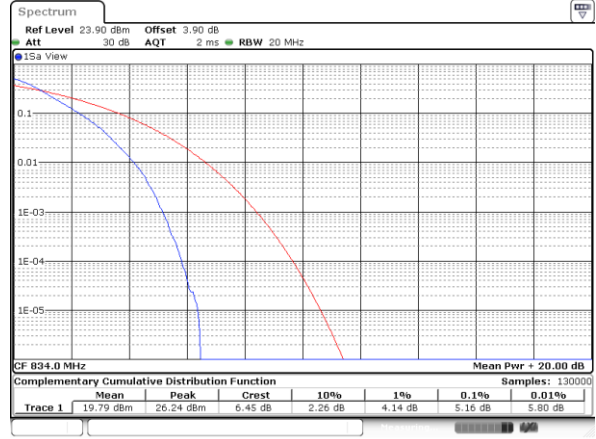
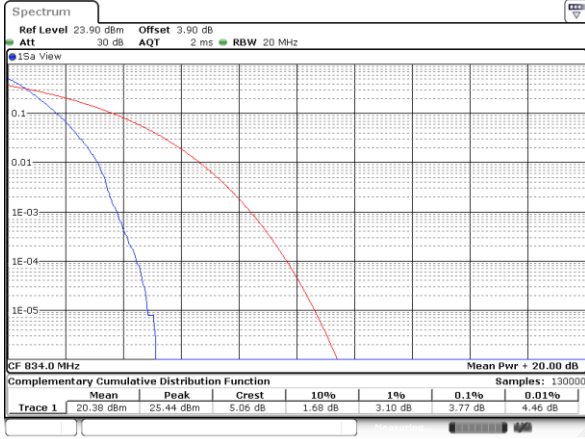
FR1 n5+2A / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

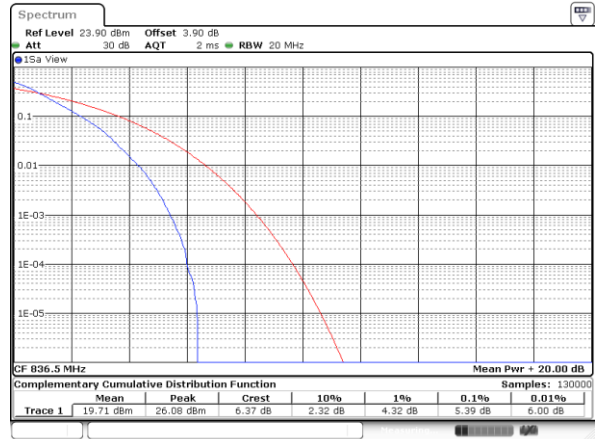
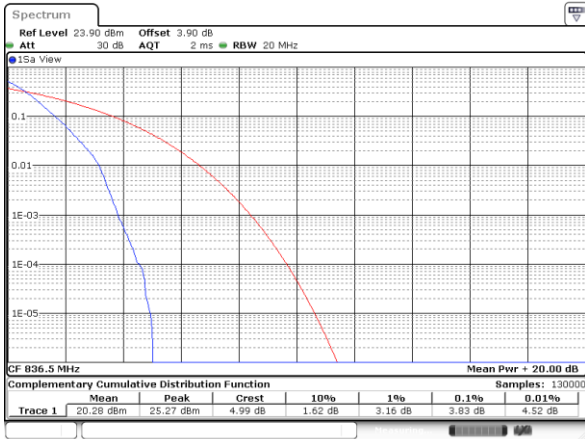


Date: 14\_JAN.2021 02:41:43

Date: 14\_JAN.2021 02:42:07

Middle Channel / Full RB

Middle Channel / Full RB

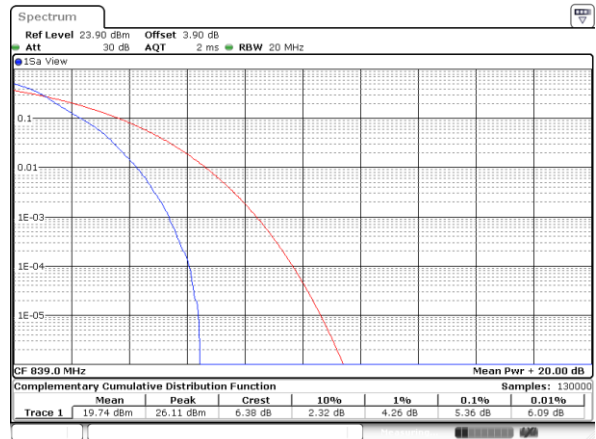
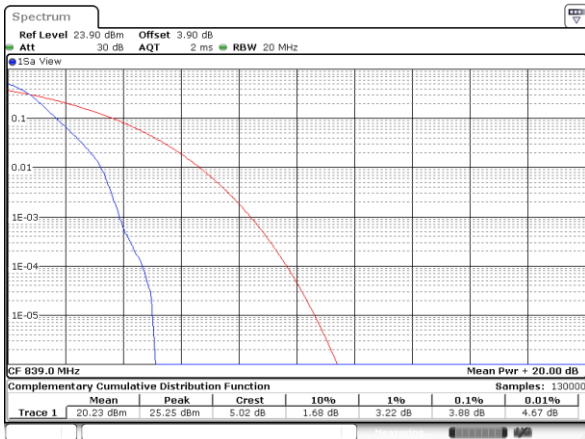


Date: 14\_JAN.2021 02:43:09

Date: 14\_JAN.2021 02:42:45

Highest Channel / Full RB

Highest Channel / Full RB



Date: 14\_JAN.2021 02:58:56

Date: 14\_JAN.2021 02:58:23



**26dB Bandwidth**

Mode	FR1 n5+2A : 26dB BW(MHz) / CP-OFDM							
BW	5MHz	5MHz	5MHz	5MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	4.82	4.84	4.84	4.82				

Mode	FR1 n5+2A : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.79	9.91	9.83	9.69				

Mode	FR1 n5+2A : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.96	14.93	14.98	14.89				

Mode	FR1 n5+2A : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	19.74	20.02	20.22	19.98				



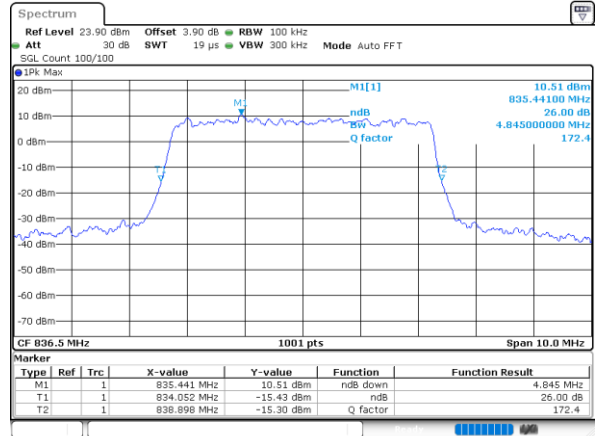
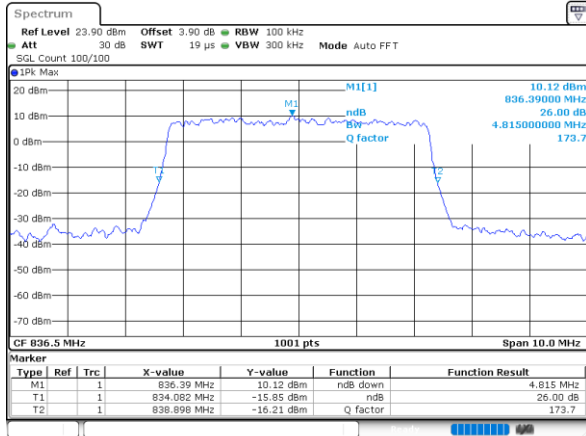
FR1 n5+2A / 5MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13\_JAN\_2021 22:44:28

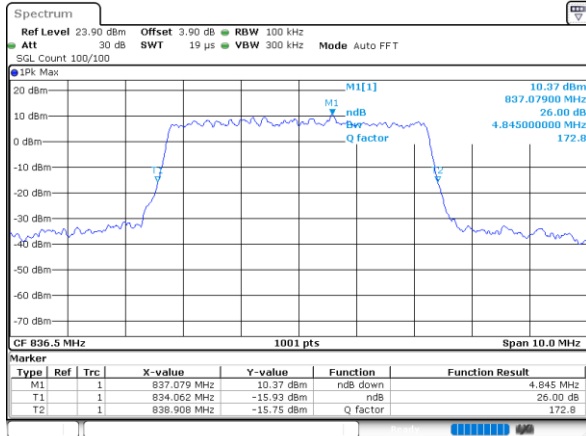
Date: 13\_JAN\_2021 22:44:15

64QAM

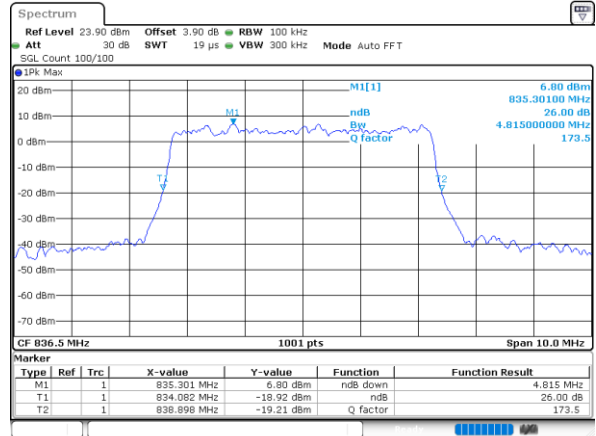
256QAM

Middle Channel

Middle Channel



Date: 13\_JAN\_2021 22:44:00



Date: 13\_JAN\_2021 22:43:42



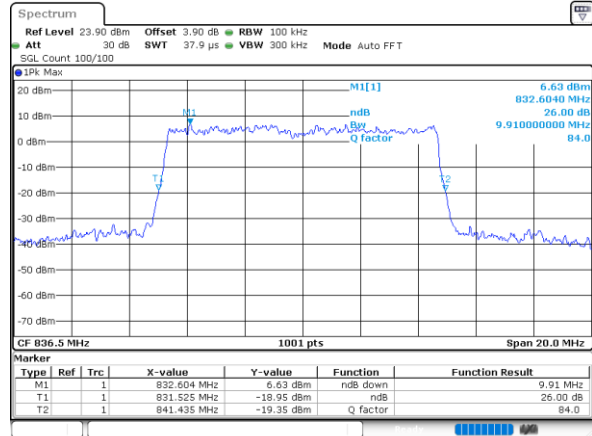
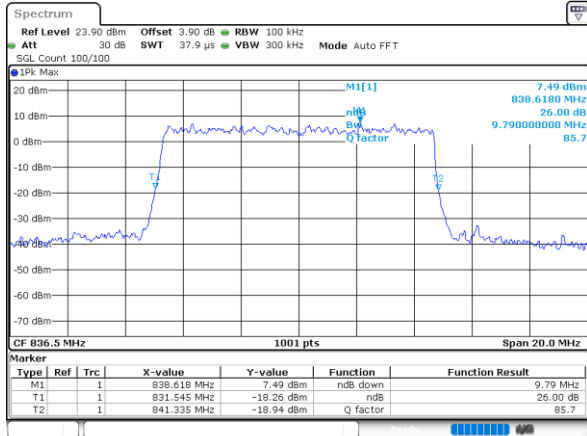
FR1 n5+2A / 10MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13\_JAN\_2021 22:41:36

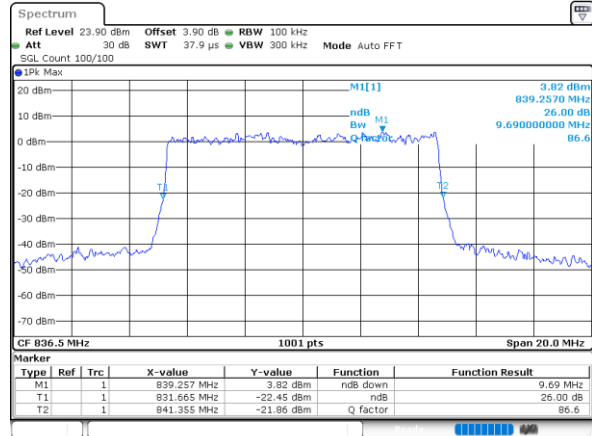
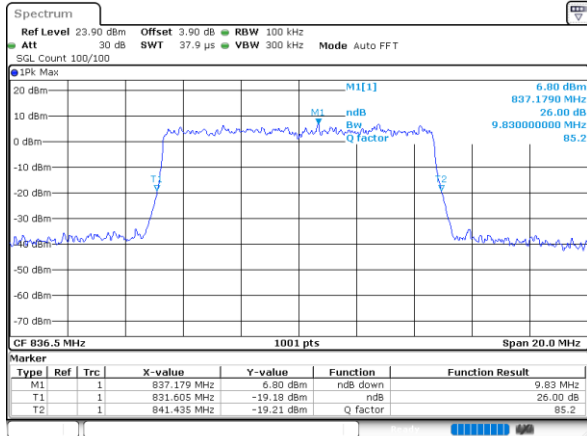
Date: 13\_JAN\_2021 22:42:02

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13\_JAN\_2021 22:42:20

Date: 13\_JAN\_2021 22:42:40



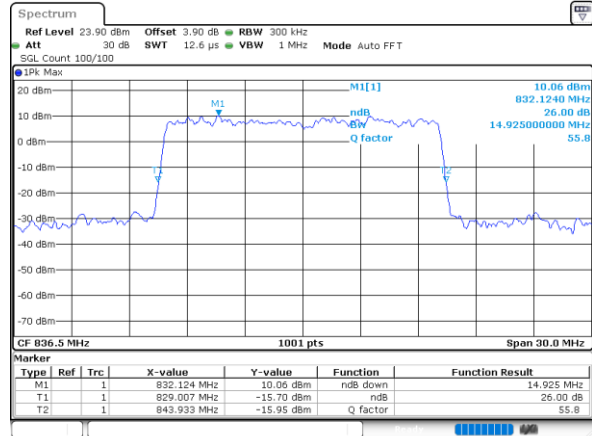
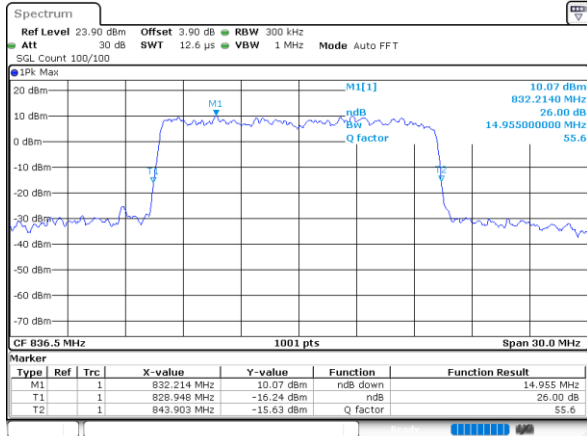
FR1 n5+2A / 15MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13\_JAN\_2021 22:40:55

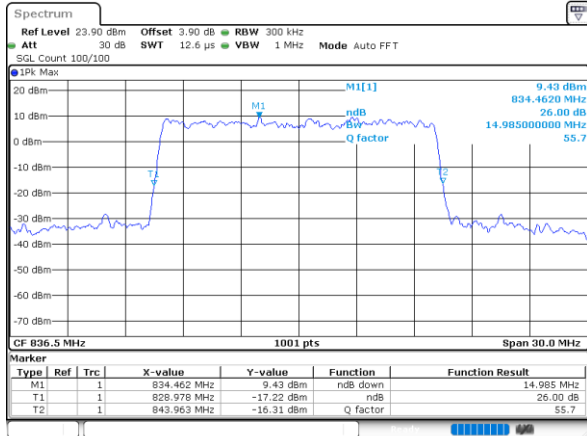
Date: 13\_JAN\_2021 22:39:57

64QAM

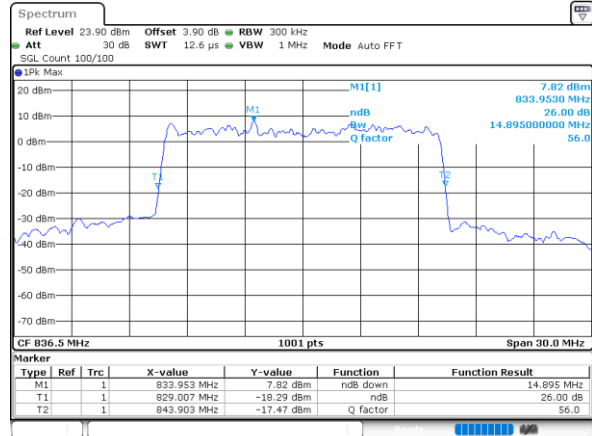
256QAM

Middle Channel

Middle Channel



Date: 13\_JAN\_2021 22:39:42



Date: 13\_JAN\_2021 22:39:29





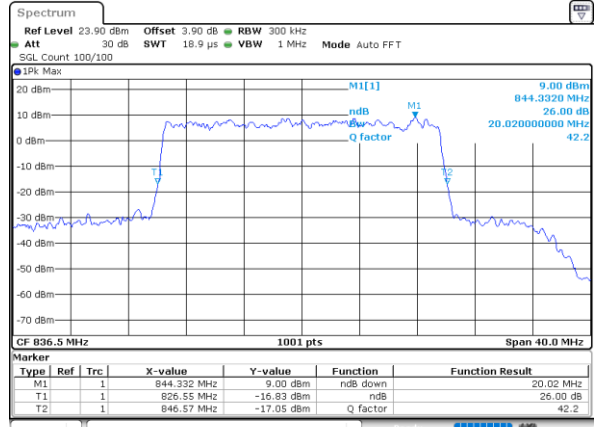
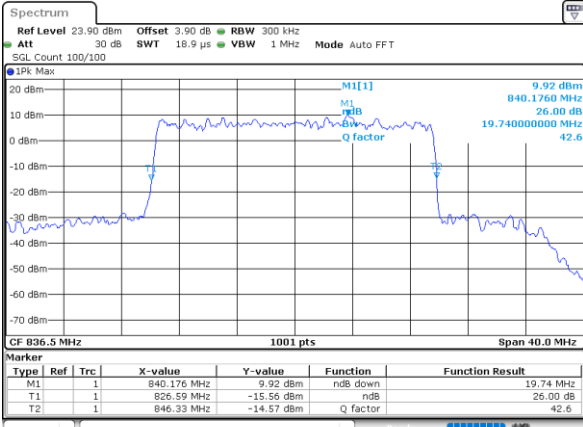
FR1 n5+2A / 20MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 22:37:50

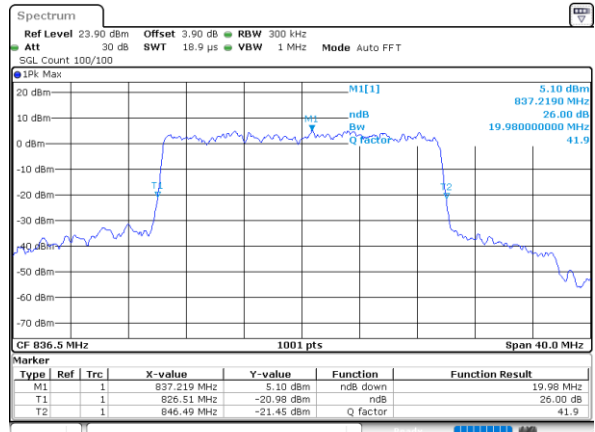
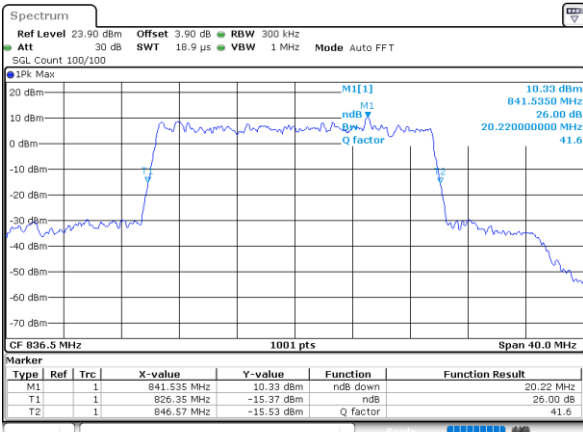
Date: 13, JAN, 2021 22:38:11

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 22:38:28

Date: 13, JAN, 2021 22:38:43



### Occupied Bandwidth

Mode	FR1 n5+2A : OBW(MHz) / CP-OFDM							
BW	5MHz	5MHz	5MHz	5MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	4.47	4.49	4.47	4.48				

Mode	FR1 n5+2A : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.27	9.29	9.27	9.31				

Mode	FR1 n5+2A : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.15	14.15	14.12	14.15				

Mode	FR1 n5+2A : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.98	19.02	18.98	18.98				



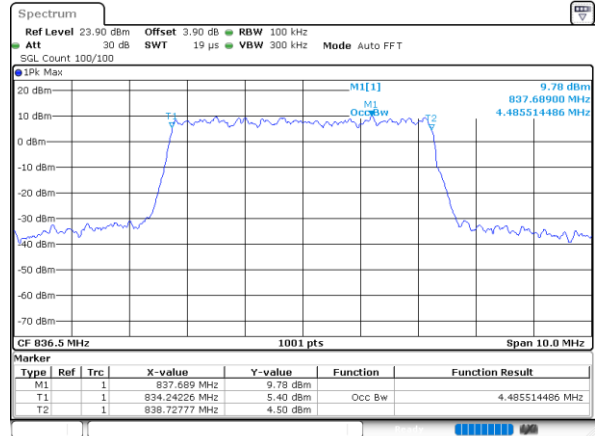
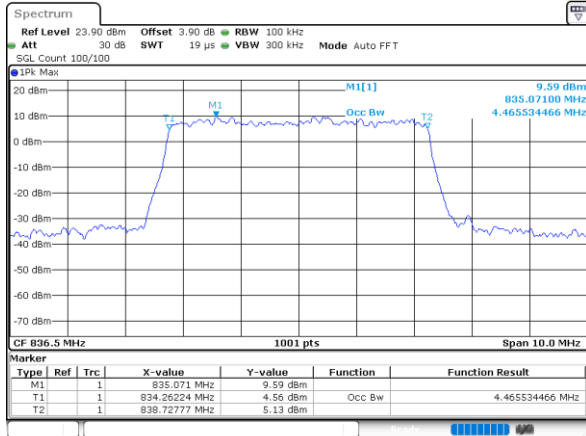
FR1 n5+2A / 5MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 22:44:23

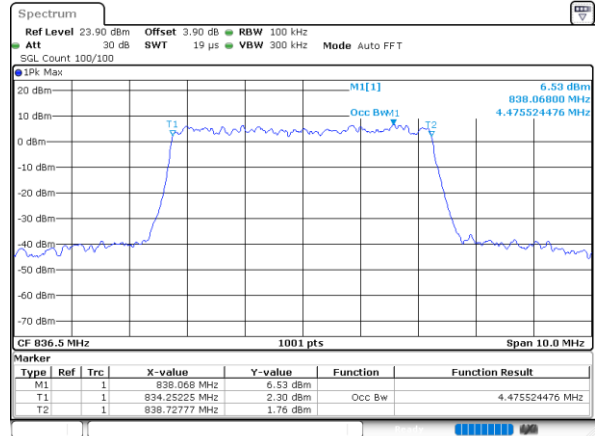
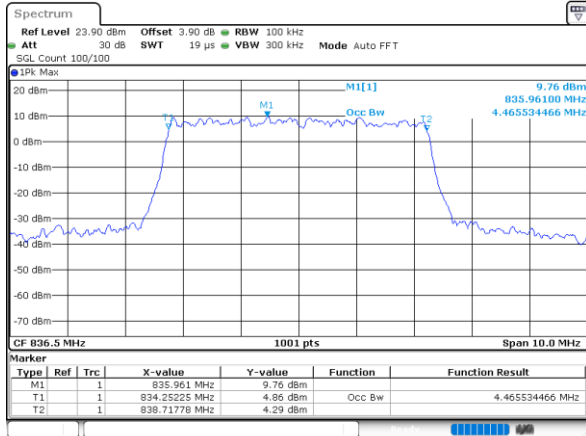
Date: 13, JAN, 2021 22:44:11

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 22:43:51

Date: 13, JAN, 2021 22:43:38



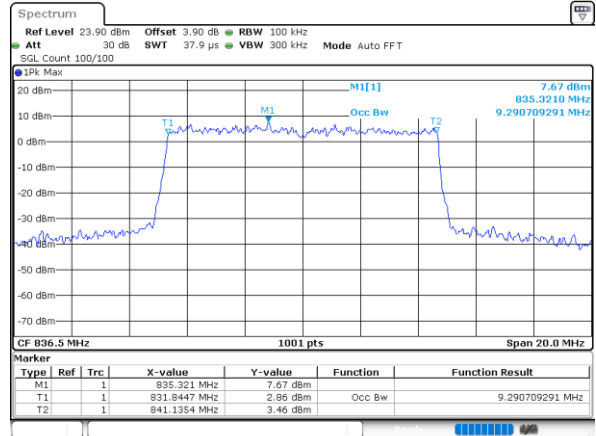
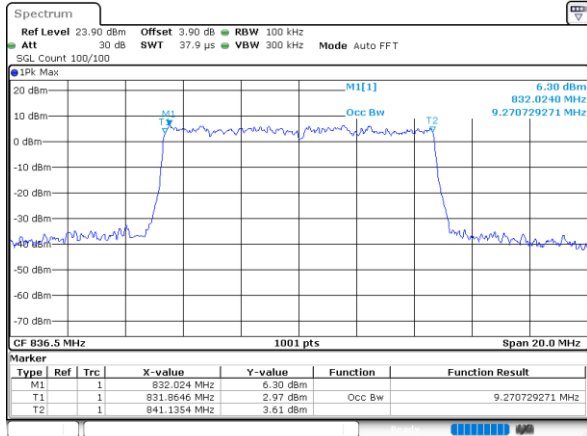
FR1 n5+2A / 10MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.JAN.2021 22:41:32

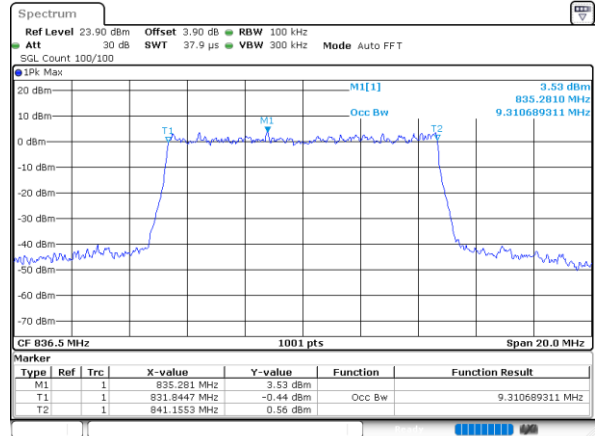
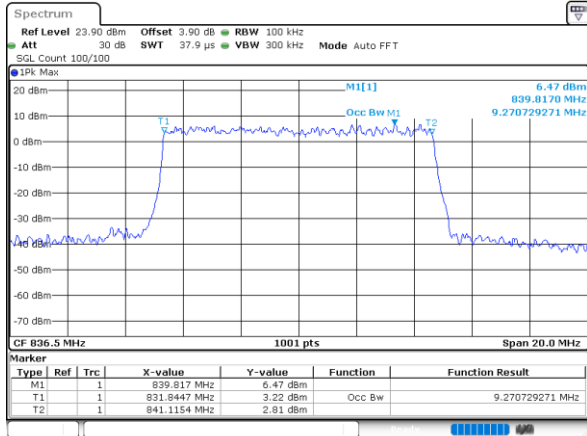
Date: 13.JAN.2021 22:41:53

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13.JAN.2021 22:42:16

Date: 13.JAN.2021 22:42:36



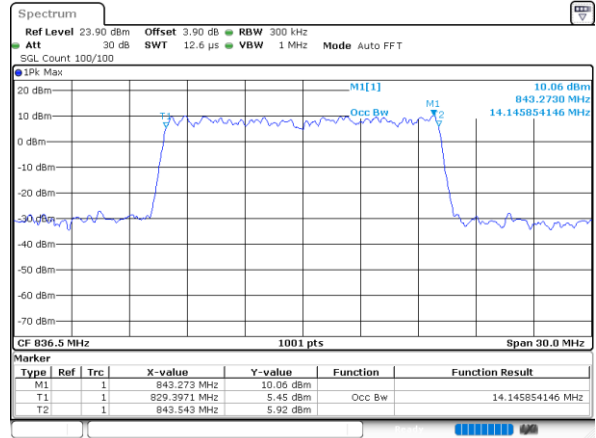
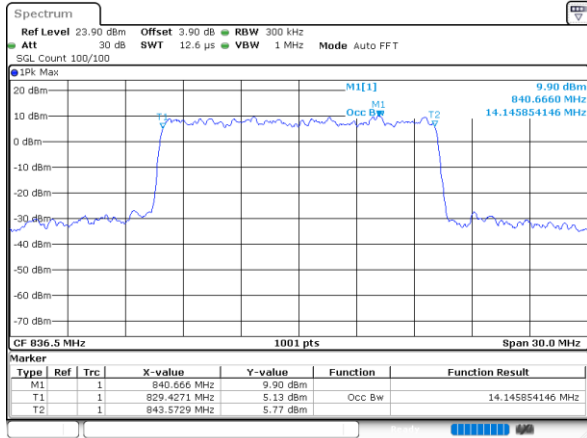
FR1 n5+2A / 15MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel

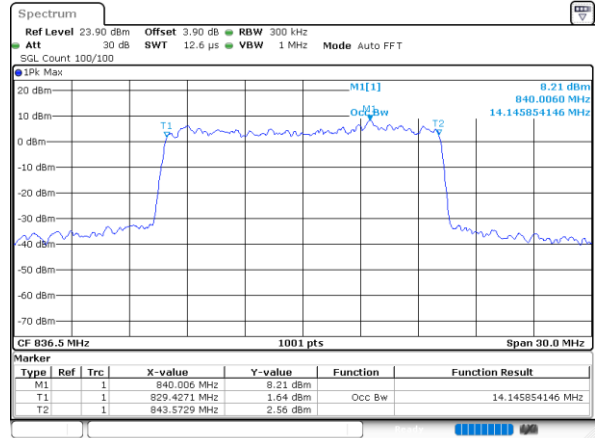
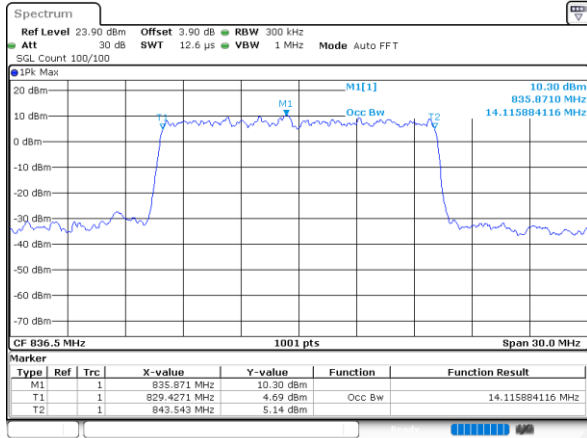


64QAM

256QAM

Middle Channel

Middle Channel





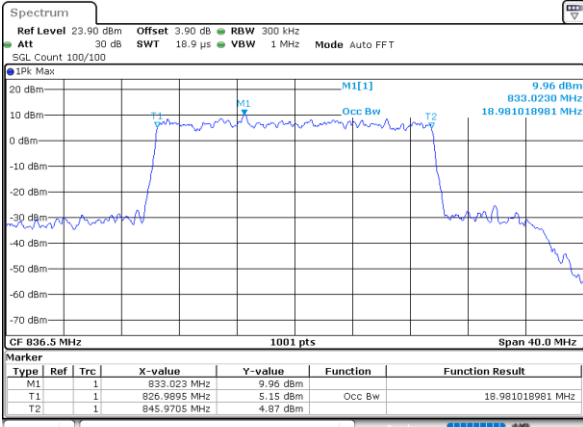
FR1 n5+2A / 20MHz / CP-OFDM

QPSK

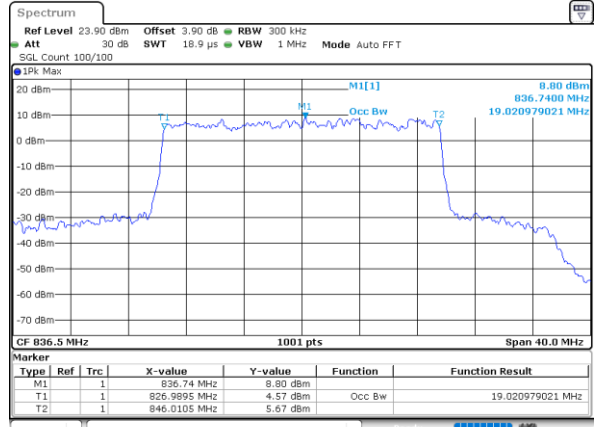
16QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 22:37:45



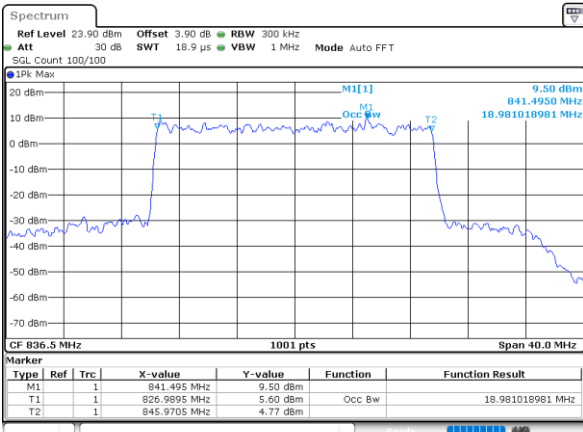
Date: 13, JAN, 2021 22:38:07

64QAM

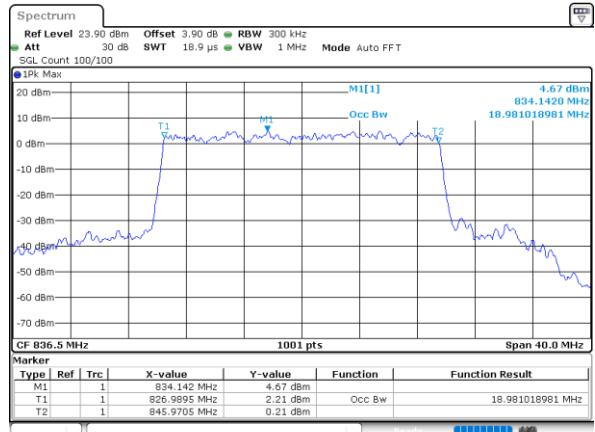
256QAM

Middle Channel

Middle Channel



Date: 13, JAN, 2021 22:38:23

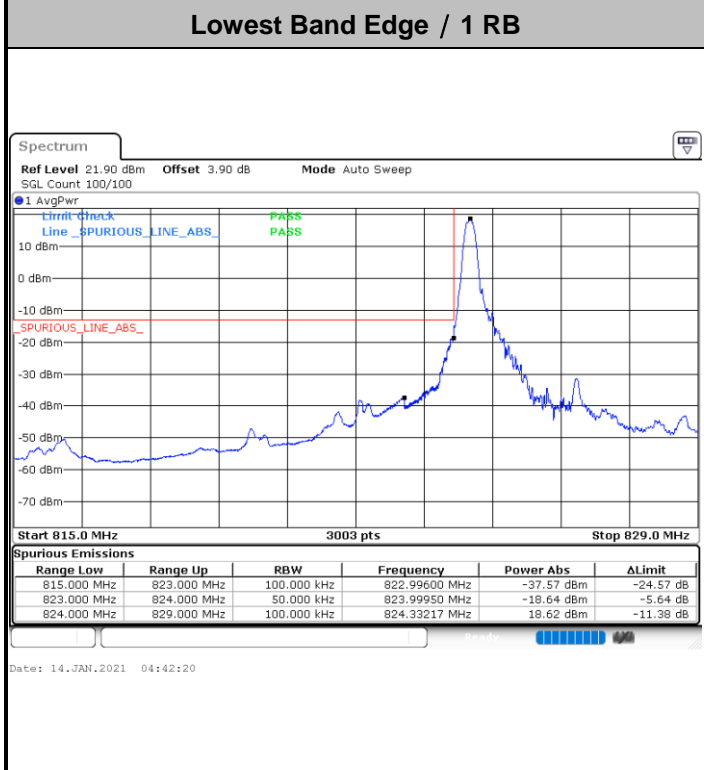


Date: 13, JAN, 2021 22:38:39

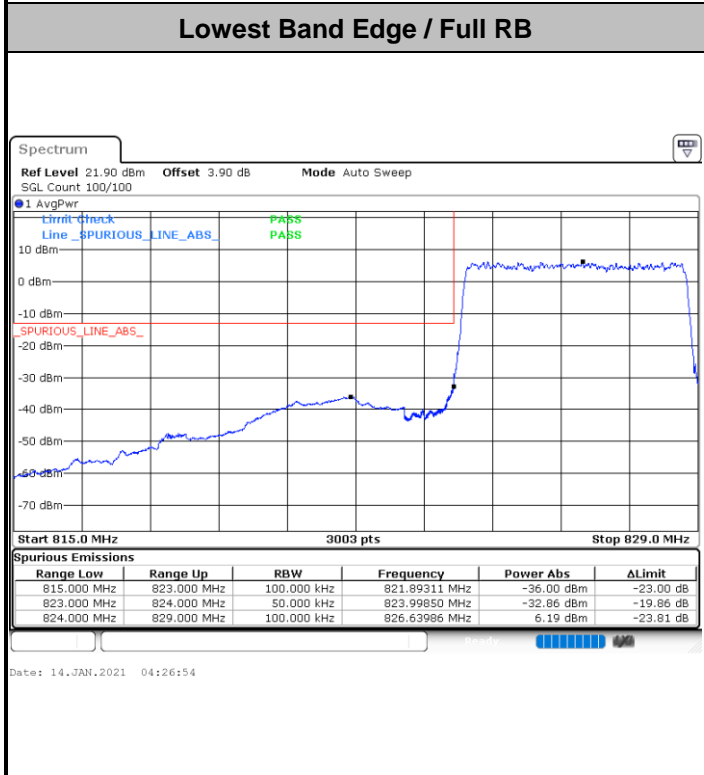


# Conducted Band Edge

## FR1 n5+2A / 5MHz / DFT-S OFDM BPSK



Channel Power < -13dBm Pass



Channel Power < -13dBm Pass